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ABSTRACT

This Commonwealth of Puerto Rico evaluation report on programs, projects, services, and activities funded in whole or in part under Elementary Secondary Education Act Title I, is organized into seven parts. Part 1, "Basic Information" includes subsections focusing on the Puerto Rico School System, Title 1 target areas, and program emphasis. Part 2 specifies the "Total Allocation for Fiscal Year 1972." Part 3 discusses the methods and procedures used in executing the "Program Evaluation." The contents of Part 4, "Test Results," are organized into two subsections detailing "Statistical Analysis" and "Summary of Tests Results" respectively. Part 5 summarizes the "Plans of Twelfth Grade Graduates." "Project Profiles" are given in Part 6. Part 7 is a "Summary of Major Findings." Also included in the report are four charts--48 tables and 26 graphs. Among the latter are the following: Spanish and English Reading Tests, D.M.A.--Sixth Grade, Relative Ranking of School Districts Based on Percentage of Students Scoring at or above the Fiftieth Percentile, April 1972; Comparison of Spanish Reading Test Scores in the years 1971 and 1972--Fourth Grade Relative Ranking of School Districts Based on Percentage of Students Scoring at or above the Fiftieth Percentile, April 1972; and 24 others. (Author/JM)

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Commonwealth of Puerto Rico
Department of Education
Hato Rey, Puerto Rico

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State Annual Evaluation Report
Title I, E S E A
Fiscal Year, 1972

Submitted by:

Ramón A. Cruz
Secretary of Education

Prepared by:

Evaluation Division
Area of Planning and
Educational Development

UD 014996

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BASIC INFORMATION

Basic Information

A. The Puerto Rico School System

The Department of Education in Puerto Rico functions as a single large district or Local Educational Agency. This means that the specific goals and objectives for elementary and secondary education in Puerto Rico as well as the plans to carry out these objectives are designed at the State level.

The head of the Department of Education is the Secretary of Education, who as all directors of the executive agencies, is appointed by the Governor of Puerto Rico. (See Chart 1 - Organization Chart of the Commonwealth of Puerto Rico). The Constitution of the Commonwealth of Puerto Rico as well as the School Laws empower the Secretary of Education to organize, direct, finance and supervise the public school system. This system is organized into 83 school districts which are in turn grouped into six educational regions: San Juan, Ponce, Mayaguez, Arecibo, Caguas and Humacao. (See Chart 2 - Organization Chart of the Department of Education). It is at the central level of the Department of Education, that instructional and administrative policy is established, thus determining the school curriculum, selecting, purchasing and distributing textbooks, equipment and materials, deciding construction of school buildings, appointing and paying teachers, administrators and supervisors, supervising teachers and conducting evaluation. The local aspects of these responsibilities are delegated by the Secretary of Education to the regional and district offices.

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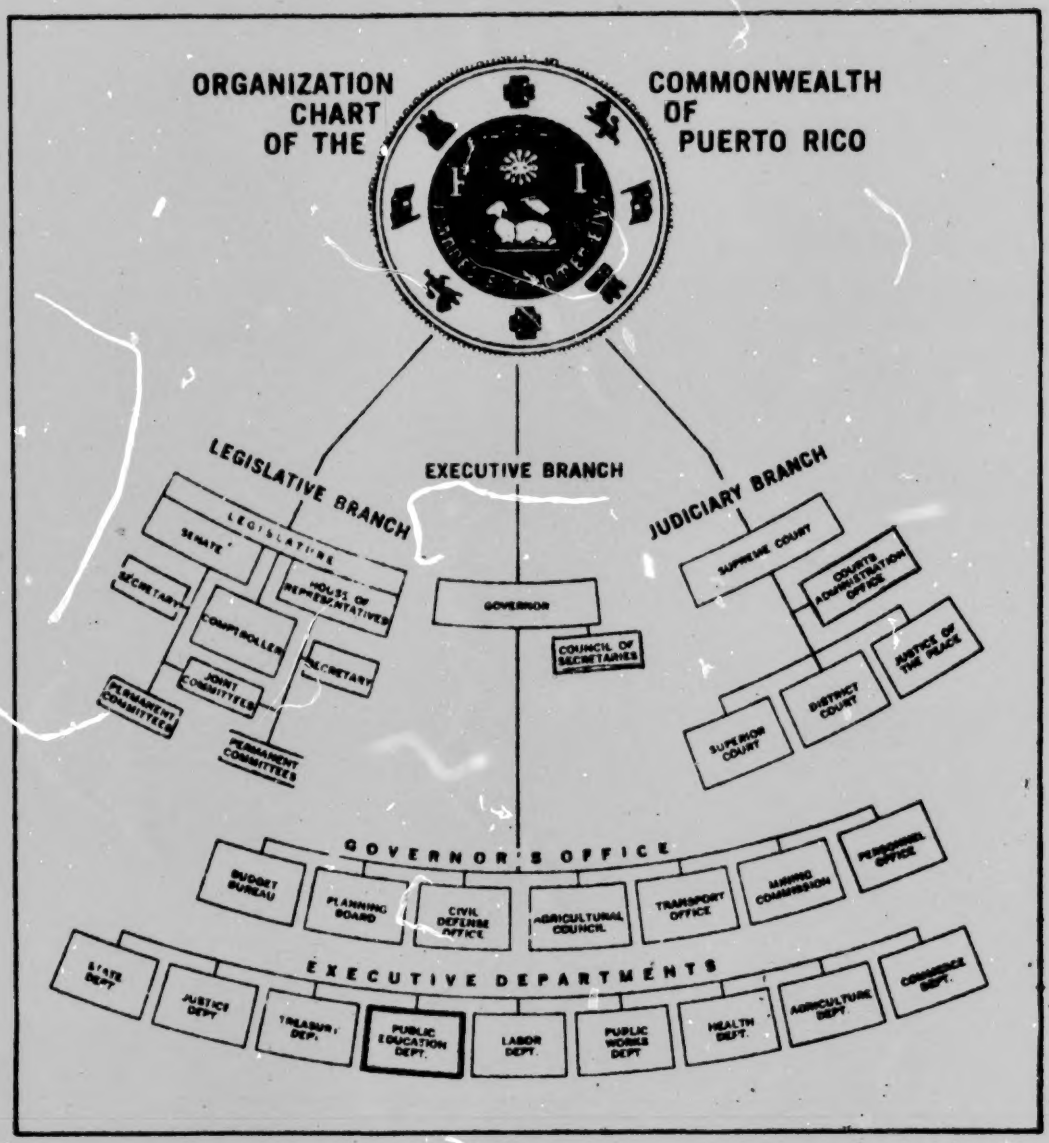
CHART 1



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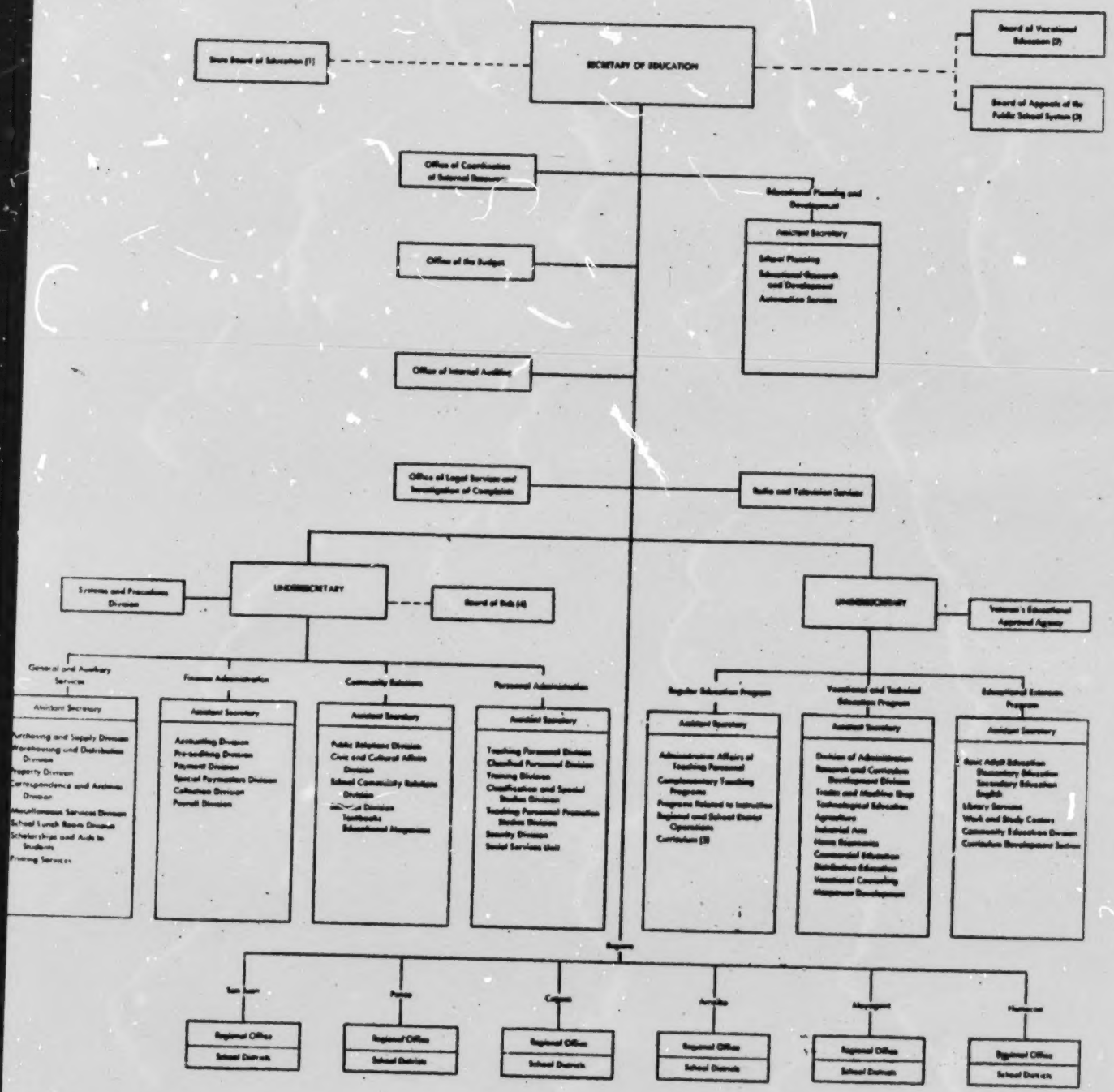
COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF EDUCATION
ORGANIZATION CHART



Created by Act No. 139 of June 29, 1968. Cooperate with Secretary of Education in the formulation of a philosophy of education and in the study and solution of basic educational problems.
Created by Act No. 20 of April 22, 1931.
Created by Act No. 115 of June 30, 1966.
Created by administrative action on March 10, 1970.
Speech, English, Science, Mathematics, Social Studies, Physical Education, Fine Arts, Kindergarten, Special Education.

Office of the Undersecretary for Administration
Systems and Procedures Division
September, 1971

For fiscal year 1972 the total public and private accredited school enrollment of Puerto Rico totalled 807,438 pupils attending regular day schools. Of this total 712,452 students or 88.0% were attending public schools while 94,986 or 12.0% were attending private accredited schools.

The number of pupils attending urban public schools was 423,614 or 61.0% of the total, while the enrollment in rural public schools was 269,875 or 39.0%. On the same date there were 23,446 teachers working in 19,218 classrooms.

In spite of increasing funds for education and our permanent interest in the betterment of the educational level of the Island's population, the Puerto Rico State Department of Education continues facing the dilemma of providing more and better educational experiences to an ever increasing number of students. Pupil/teacher as well as pupil/classroom ratio are too high. Consequently, a large number of students get less than six hours of daily instruction. The retention rate has been increasing but it is still low. A high percentage of teachers currently in service have not fullfilled the academic requirements for a regular certificate.

The generally poor economic condition of Puerto Rico is reflected in the funds available for education. Although the Commonwealth Government devotes consistently about one third of its annual budget to education, the average annual expenditure per pupil has only reached $491 in 1971-72. This is one of the lowest among all States. Title I funding thus constitutes a major thrust among efforts to upgrade the educational system in Puerto Rico.

B. Title I Target Area

Since 1969 Title I funds have been almost exclusively assigned to projects within thirty-five school districts, identified as the most under priviledged on the basis of per-capita income and lowest academic achievement. (See Map on next page illustrating geographical location of selected districts).

As of August 1971 the situation within the 35 Title I districts was as follows:

a. Total school enrollment

Total Public and Private School enrollment	- 234,231 (29% of total Island)
Total Public	- 229,035 (98% of total enrollment)
Total Private	- 5,196 (2% of total enrollment)

b. Urban Rural proportion

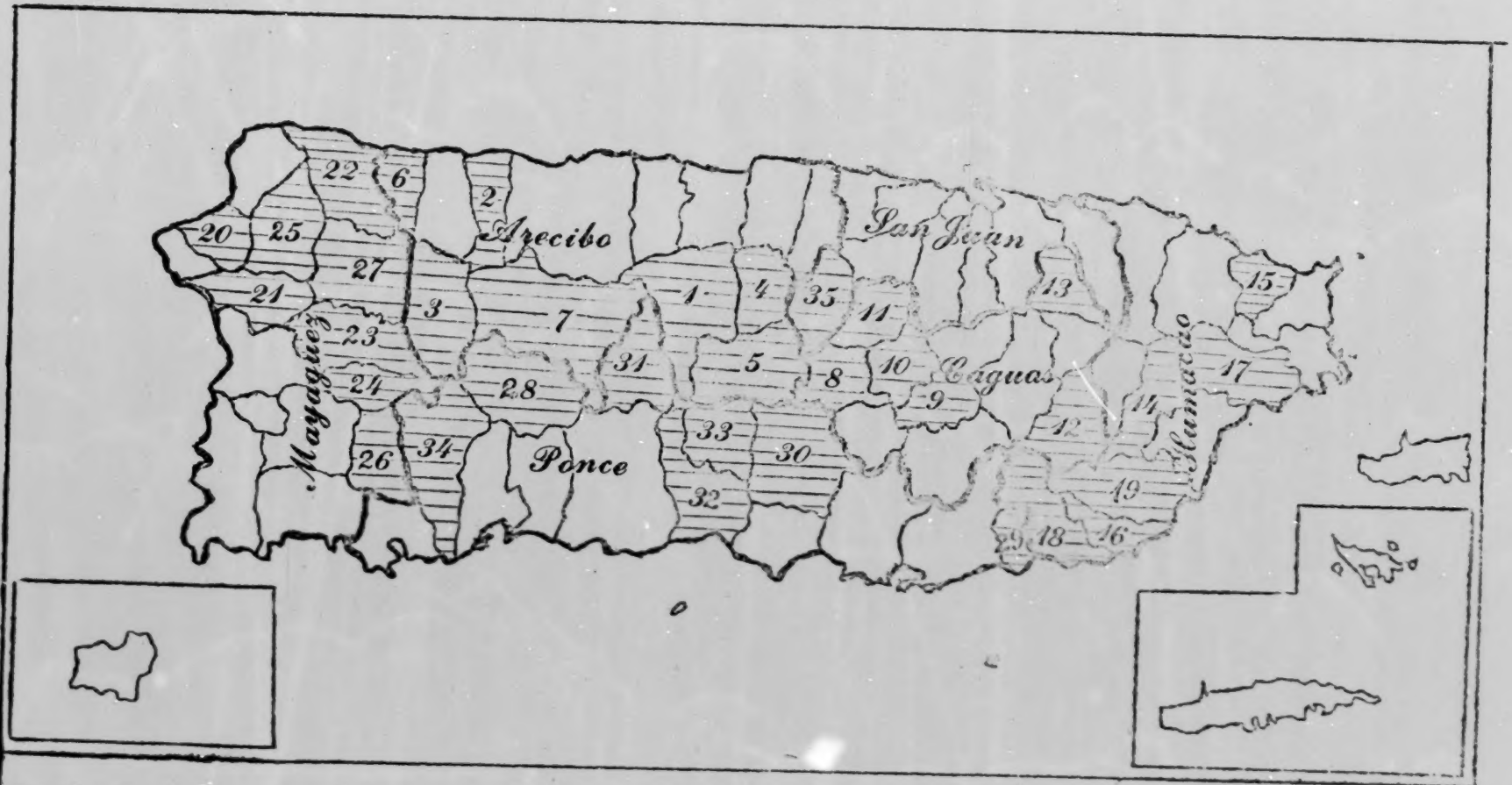
Total enrollment in Urban Public Schools	- 99,011 (43% of total enrollment)
Total enrollment in Rural Public Schools	- 130,024 (57% of total enrollment)

This urban-rural proportion differs from that in the 48 remaining districts where the balance leans toward the urban zone as follows: Urban 337,130 (70.0%) and Rural 146,287 (30.0%)

c. Enrollment by type of organization (Grades 1 - 12)

Single enrollment (six hours)	- 153,182 (70%)
Interlocking and Double enrollment organization	- 65,960 (30%)

TITLE I SCHOOL DISTRICTS



Arecibo Region	Caguas Region	Humacao Region	Mayaguez Region	Ponce Region	San Juan Region
1. Ciales	8. Barranquitas	14. Las Piedras	20. Aguada	28. Adjuntas	35. Corozal
2. Hatillo	9. Cidra	15. Luquillo	21. Añasco	29. Arroyo	
3. Lares	10. Comerío	16. Maunabo	22. Isabela	30. Coamo	
4. Morovis	11. Naranjito	17. Naguabo	23. Las Marías	31. Jayuya	
5. Orocovis	12. San Lorenzo	18. Patillas	24. Maricao	32. Juana Díaz	
6. Quebradillas	13. Trujillo Alto	19. Yabucoa	25. Moca	33. Villalba	
7. Utuado			26. Sabana Grande	34. Yauco	
			27. San Sebastían		

d. Teachers and classrooms

Total number of classrooms	- 6,533
Total number of teachers	- 7,609
Number of teachers with provisional certificate	- 2,051 (27%)

This percentage reflects that the need for adequately trained teachers is still more acute within this sector than in the rest of the Island, where only 15% of the teachers hold provisional certificates.

C. Program Emphasis

The four main project areas designated as priorities and under which all Title I projects were classified since 1969, continued through fiscal year 1972 with slight modifications. Budgetary allocations by each of these areas as well as by specific activities within areas, are included in the next section of this report.

TOTAL ALLOCATION FOR FISCAL YEAR 1972

BUDGETARY ALLOCATIONS

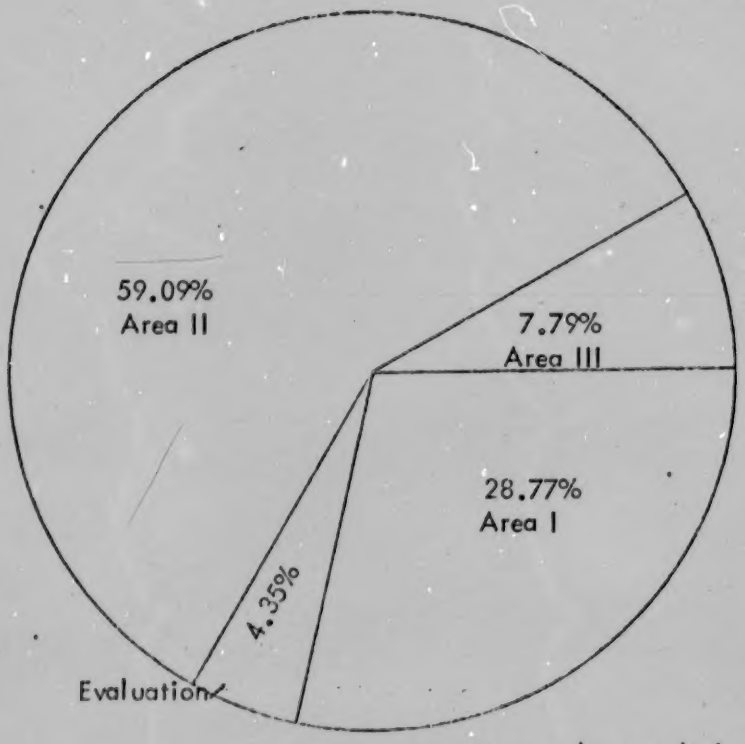
PROJECT AREAS

PROJECT AREAS AND ACTIVITIES

CHART III

BUDGETARY ALLOCATIONS BY AREAS

YEAR 1972



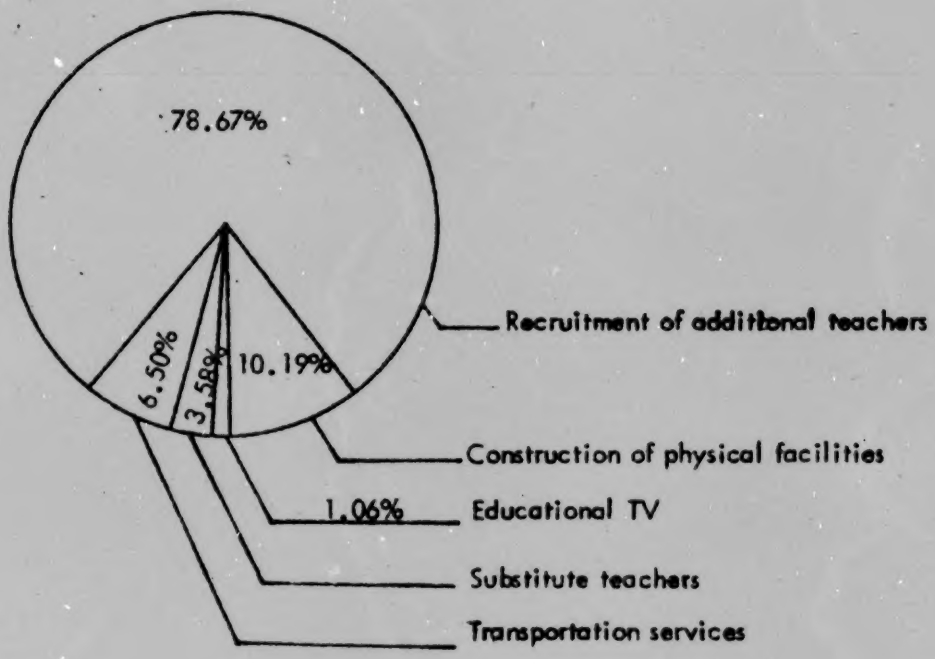
	Amount Assigned	%
Area I: Lengthening the school day	$9,236,236	28.77%
Area II: Curriculum enrichment and improvement of pupils' academic achievement	18,969,379	59.09%
Area III: Supportive services	2,501,373	7.79%
Evaluation of Title I Projects	1,396,448	4.35%
Total	32,103,436*	100%

*Total includes a carry over of $3,092,759

CHART IV

BUDGETARY ALLOCATIONS BY AREA AND ACTIVITIES

YEAR 1972



Area I: Lengthening the School Day

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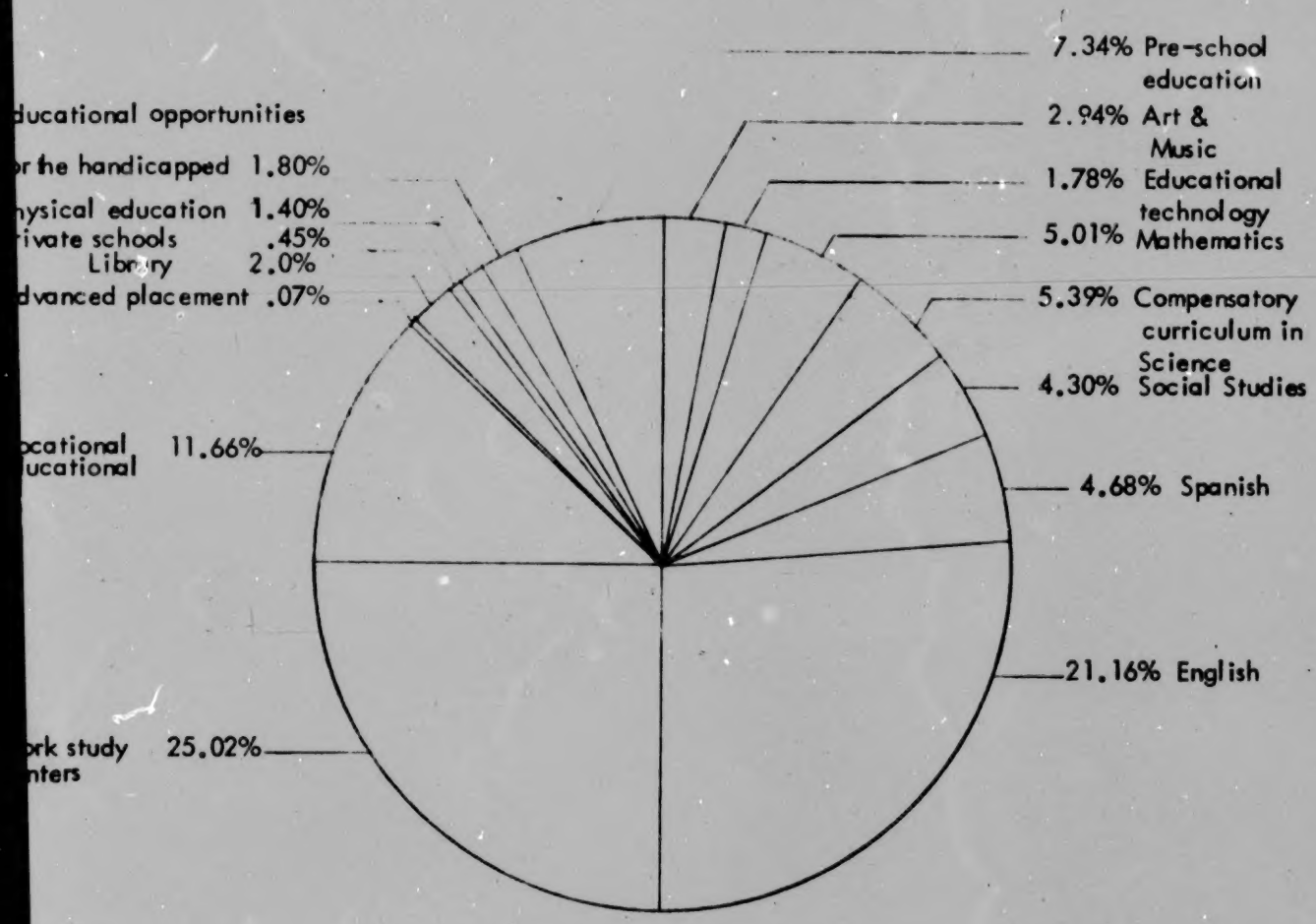
BUDGETARY ALLOCATIONS BY AREAS & ACTIVITIES
YEAR 1972



Area II: Curricular Enrichment and Improvement of Students' Achievement

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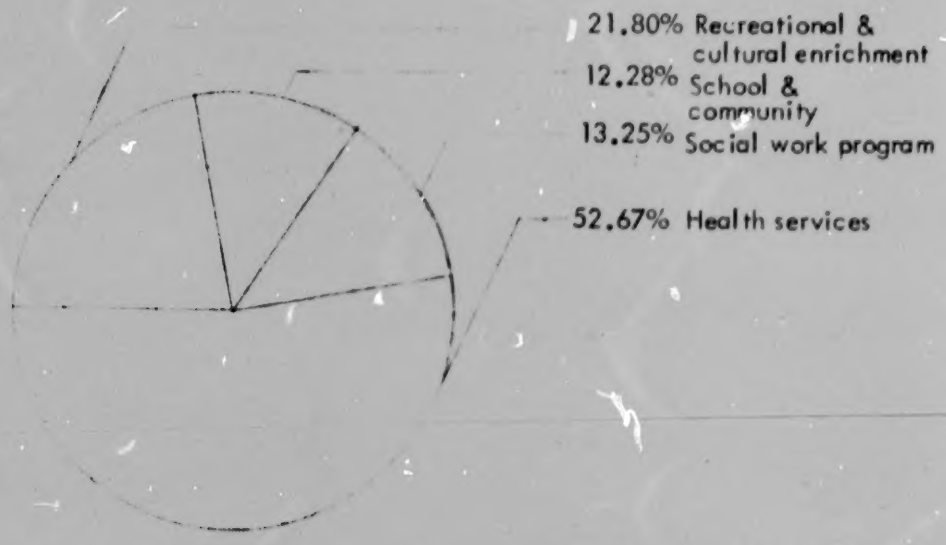
BUDGETARY ALLOCATIONS BY AREAS & ACTIVITIES
YEAR 1972



Area III: Supportive Services

Evaluation of Title I Projects

PROGRAM EVALUATION

Program Evaluation

In keeping with the functions assigned to the Division of Evaluation of the Puerto Rico State Department of Education concerning the Title I evaluation requirement, data gathering activities continued to be designed and developed at two levels. First, to assess specific project objectives and second, to assess overall Title I program impact on pupils' achievement.

At the project level, both formal and informal evaluation techniques are applied depending on factors such as nature of objectives, availability of measuring instruments, etc. At this level, the Division of Evaluation functions in a supportive role. Project directors in coordination with supervisors from the Division of Evaluation compile statistical and descriptive data deemed to be essential for evaluation purposes and reporting. Technical assistance is provided through seminars, workshops, interviews and the like. The definition of objectives in behavioral terms, the preparation of evaluation designs, test construction, and analysis and interpretation of test results, are among the most frequent topics covered. The overall program assessment continued as in previous years to encompass mainly the development of standardized testing in Spanish and English reading in various grade levels and the analysis of the data related to school dropouts, failures and plans of twelfth grade graduates. Simultaneously, other standardized tests are being developed which are expected to be ready for administration in 1973. These are achievement tests in Mathematics, Spanish Language and Listening-Speaking Comprehension in English. Although the present report intends to focus both evaluation levels, the latter one, because of its objective nature, is specially stressed.

Due to technical difficulties at the Electronic Center of the Department of Education, as well as limitations on the amount of testing materials available, a statewide testing program as extensive as that developed in 1971 was not feasible this year. For evaluation purpose a sample of 18 school districts (See Table 1) was selected on the basis of the following criteria:

1. Socio-economic level
2. Proportion of urban and rural school enrollment
3. Geographical distribution
4. Title I participation (6 districts from the Title I Sector - 12 districts-non-Title I Sector)

Standardized tests administered by grade and subject matter are listed below:

Test	Grades	Districts*
General Ability	4, 7, 10	18 district sample
Spanish Reading	4, 6, 7, 10	18 district sample
	5, 8, 11	12 district sample
English Reading	6, 7, 10	18 district sample

The results that were obtained in each of the grades tested by district and by regions as well as comparisons between the 6 Title I districts vs. the 12 Non-Title I districts are included in this report.

---

*18 district sample (See Table 1) sample selected for overall Title I evaluation program

*12 district sample - sub sample selected for evaluation of Project 34 (Spanish)

Enrollment Figures by District, Zone, and Grades
Sample for 1971-72 Testing for the Evaluation of Title I Program

Sample District	Grade 4			Grade 5			Grade 6			Grade 7			Grade 8			Grade 10			Grade 11			Grade 12		
Title I	U	R	Total	U	R	Total	U	R	Total	U	R	Total	U	R	Total	U	R	Total	U	R	Total	U	R	Total
1. Orocovis	137	581	718	157	554	711	137	521	658	175	494	669	183	402	585	413	---	413	351	---	351	270	---	270
2. Comerío	188	464	652	236	407	643	254	323	577	297	195	492	210	195	405	328	---	328	240	---	240	164	---	164
3. Manunabo	130	220	350	132	240	372	149	168	317	178	99	277	142	80	222	183	---	183	160	---	160	138	---	138
4. Las Marías	77	264	341	77	176	253	89	182	271	97	87	184	76	67	143	105	---	105	68	---	68	42	---	42
5. Jayuya	146	393	539	172	379	551	161	307	468	203	199	402	162	170	332	279	---	279	273	---	273	190	---	190
6. Corozal	204	539	743	253	615	868	201	500	701	254	348	602	243	308	551	523	---	523	411	---	411	301	---	301
Non Title I																								
7. Camuy	130	464	594	---	---	---	146	354	500	169	285	454	---	---	---	279	---	279	---	---	---	304	---	304
8. Manatí	290	408	698	322	467	789	364	440	804	628	71	699	538	90	628	662	---	662	462	---	462	361	---	361
9. Cayey	518	648	1166	---	---	---	479	479	958	575	352	927	---	---	---	623	---	623	---	---	---	422	---	422
10. Gurabo	117	366	483	114	302	416	150	363	513	409	35	444	349	36	385	291	---	291	214	---	214	148	---	148
11. Fajardo	385	132	517	364	130	494	377	93	470	526	---	526	380	---	380	450	---	450	374	---	374	265	---	265
12. Juncos	207	379	586	---	---	---	227	342	569	468	159	627	---	---	---	354	---	354	---	---	---	211	---	211
13. Aguadilla	353	795	1148	---	---	---	338	707	1045	324	448	772	---	---	---	670	---	670	---	---	---	471	---	471
14. Cabo Rojo	161	359	520	179	376	555	138	332	470	247	237	484	229	173	402	324	---	324	255	---	255	243	---	243
15. Guánica	212	126	338	---	---	---	195	133	328	288	---	288	---	---	---	225	---	225	---	---	---	127	---	127
16. Peñuelas	195	336	531	180	379	559	160	273	433	247	250	497	186	170	356	258	---	258	211	---	211	199	---	199
17. Dorado	130	361	491	196	285	481	175	249	424	214	175	398	164	153	317	216	---	216	201	---	201	165	---	165
18. Toa Baja	519	818	1337	---	---	---	503	706	1209	682	436	1118	---	---	---	737	---	737	---	---	---	366	---	366
TOTAL	4099	7653	11752	2382	4310	6692	4223	6492	10715	5981	3860	9841	2842	1845	4687	6936	---	6936	3212	---	3212	4313	---	4313

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TEST RESULTS

Test Results

The statistical analysis done on the test data for this report includes the following:

1. Comparison of mean scores by zone within each school district for 1972.
2. Comparison of mean scores by zone within each educational region for 1972.
3. Comparison of total mean scores between the Title I districts (6) and Non-Title districts (12) for 1972.
4. Comparison of total mean scores between the Title I districts and Non-Title I districts by zone for 1972.
5. Comparison of mean scores by grade for the years 1971 and 1972 by district, region, Title I and Non-Title I Sector.
6. Interquartile ranges of test scores on the basis of percentage of students achieving at or above the 50th percentile.
7. Ranking of school districts based on the percentage of students achieving at or above the 50th percentile in the Spanish Reading test.
8. Comparison of ranking attained by school districts in Spanish Reading in relation to English Reading.
9. Comparison of the same group of students in two consecutive grades (e. g. fourth grade (1971) vs. fifth grade 1972).

Summary of Test Results

A. The analysis of mean scores obtained by students in the various grades tested by districts, zones, Title I and Non-Title I sectors, in both Spanish and English reading reveal that:

a. students from the urban zone continue to achieve higher mean scores in both English and Spanish reading than pupils from the rural zone. The differences observed at all levels are statistically significant. (See Tables 2, 3 and Graphs 1 - 13).

b. in general, no significant differences are observed as to achievement levels attained in both Spanish and English reading within each grade level for the years 1971 and 1972, that is, mean scores obtained by grades and by school districts in 1972 are more or less the same as those obtained the preceding year in the same grades. (See Tables 4 - 10).

c. higher mean scores correspond to the upper grade when results are compared for the same group of students in two consecutive years. As expected, fifth grade achievement as measured by the Spanish and English reading tests, is better than fourth grade achievement for the same group of students, eighth better than seventh and eleventh better than tenth. (See tables 11 - 13).

d. in general, students from the Title I sector continued to achieve slightly lower mean scores than the students from the Non-Title I sector. However, consistent with the situation encountered in 1971, the difference in mean scores between urban and rural zone is smaller

within the Title I sector than within the Non-Title I sector (See Tables 14 - 23).

e. in spite of lower mean scoring within the Title I sector, the amount of gain observed in Spanish reading from one year to the other, is approximately the same or better than the amount of gain observed within the Non-Title I sector. (See tables 11-13). The total mean differences for the Title I sector were 4.97 from the fourth to the fifth grade; 5.65 from the seventh to the eighth and 3.35 from tenth to eleventh. For the Non Title I sector the total mean differences were 5.10 from the fourth to the fifth, 5.06 from the seventh to the eighth and 3.68 from tenth to eleventh grade.

B. The analysis of interquartile ranges of Spanish Reading scores, based on percentage of scores within quarters by district, reveal that:

a. as expected, approximately 25% of all cases from the 18 district sample (total) fell within each quarter. (See Tables 24 - 25).

b. approximately the same percentage of students from the Title I and Non-Title I districts fell within the limits of the middle quarters (second and third), however in the extremes of the distribution (upper and lowest quarters), greater differences are observed. A larger percentage of scores within the Title I sector fell within the lowest range. (See Table 25).

The rank order of school districts established on the basis of percentage of scores at or above the 50th percentile in Spanish reading in grades 4, 7 and 10 is indicated on Table 26. With a few exceptions within grades, Title I districts' ranking correspond to positions 13 to 18, the lowest within

the total distribution. Rank order attained by individual districts is rather consistent not only from one year to the other (See Graphs 14 - 16) but also across subjects (English and Spanish). (See Graphs 11 - 13).

Table 2 -a
Test Results by District and Grade
Spanish Reading
Urban Zone
April 1972

District		4th	5th	7th	8th	10th	11th
Comerío	N	155	200	255	168	230	178
	$\bar{X}$	228.0	233.2	240.0	246.2	250.3	254.0
	SD	6.3	7.8	9.7	9.9	10.4	11.3
Corozal	N	188	216	229	216	412	313
	$\bar{X}$	224.5	228.0	236.3	242.8	250.4	254.0
	SD	5.6	8.0	12.3	11.0	10.6	12.0
Jayuya	N	143	149	151	126	228	224
	$\bar{X}$	227.0	230.9	240.6	247.3	249.9	255.7
	SD	8.0	8.6	11.5	11.7	9.9	11.5
Las Marías	N	64	63	74	58	73	49
	$\bar{X}$	228.0	233.0	243.6	247.8	250.8	259.5
	SD	7.0	8.0	10.1	10.2	10.8	13.3
Maunabo	N	120	118	149	114	147	120
	$\bar{X}$	231.0	235.0	240.0	246.2	254.0	257.4
	SD	7.0	8.0	10.0	11.7	11.6	12.6
Orocovis	N	119	148	161	150	347	292
	$\bar{X}$	225.1	228.0	239.1	245.1	249.4	251.8
	SD	4.9	7.0	9.1	11.3	10.9	10.7
Cabo Rojo	N	157	165	227	202	267	220
	$\bar{X}$	233.7	238.0	245.9	249.9	256.0	260.3
	SD	8.6	10.0	11.9	12.1	11.6	11.2
Aguadilla	N	310	-	293	-	526	-
	$\bar{X}$	228.0	-	244.0	-	254.0	-
	SD	7.4	-	11.1	-	11.3	-
Camuy	N	119	-	146	-	243	-
	$\bar{X}$	230.0	-	243.9	-	253.7	-
	SD	6.6	-	10.1	-	11.1	-
Cayey	N	462	-	510	-	561	-
	$\bar{X}$	232.0	-	240.0	-	252.9	-
	SD	9.0	-	9.2	-	9.8	-
Dorado	N	107	174	163	151	186	158
	$\bar{X}$	227.4	232.5	240.9	243.8	253.1	255.9
	SD	7.6	9.3	10.6	10.9	10.6	11.3
Fajardo	N	405	332	424	345	394	325
	$\bar{X}$	230.5	235.0	242.1	248.5	254.0	256.6
	SD	7.9	10.0	10.9	11.2	11.6	13.1
Guánica	N	92	-	248	-	162	-
	$\bar{X}$	230.0	-	242.0	-	252.6	-
	SD	6.6	-	10.9	-	11.7	-
Gurabo	N	97	106	287	224	200	168
	$\bar{X}$	231.0	233.2	240.0	242.1	251.4	255.9
	SD	9.0	10.6	9.9	11.3	10.9	11.4
Juncos	N	193	-	339	-	265	-
	$\bar{X}$	227.0	-	235.9	-	254.0	-
	SD	7.5	-	9.0	-	10.7	-
Manatí	N	237	278	426	435	418	350
	$\bar{X}$	226.2	233.4	240.1	245.0	252.7	254.0
	SD	6.4	10.0	9.7	12.5	11.2	11.0
Peñuelas	N	176	155	203	161	197	167
	$\bar{X}$	228.0	231.0	240.0	246.9	254.0	256.8
	SD	6.9	8.0	9.0	11.1	9.9	11.9
Toa Baja	N	507	-	597	-	584	-
	$\bar{X}$	228.9	-	240.9	-	250.3	-
	SD	7.1	-	10.6	-	11.7	-

Table 2 -b
Test Results by District and Grade
Spanish Reading
Rural Zone
April 1972

DISTRICT		4th	5th	7th	8th
COMERIO	N	363	317	154	157
	X	228.0	231.7	237.7	242.1
	SD	6.9	7.9	7.8	9.3
COROZAL	N	485	529	282	245
	X	226.0	231.9	238.9	241.1
	SD	6.0	8.1	9.6	11.5
JAYUYA	N	344	288	171	136
	X	226.0	230.5	240.0	242.4
	SD	6.4	8.1	9.3	10.3
LAS MARIAS	N	207	143	67	59
	X	226.7	231.0	238.5	240.8
	SD	6.3	7.2	8.8	10.2
MAUNABO	N	204	192	91	73
	X	228.0	231.0	238.2	241.8
	SD	5.6	6.8	6.8	8.0
OROCOVIS	N	528	472	408	333
	X	226.7	232.0	240.0	244.5
	SD	5.3	8.0	8.7	9.7
CABO ROJO	N	327	342	188	145
	X	229.9	233.0	244.0	249.0
	SD	6.1	8.2	9.2	11.0
AGUADILLA	N	678	---	376	---
	X	229.9	---	242.4	---
	SD	6.1	---	10.6	---
CAMUY	N	412	---	251	---
	X	228.0	---	240.0	---
	SD	7.0	---	9.0	---
CAYEY	N	563	---	325	---
	X	229.0	---	241.5	---
	SD	6.0	---	9.6	---
DORADO	N	308	250	156	138
	X	225.0	229.2	241.1	242.8
	SD	6.8	6.9	10.7	10.2
FAJARDO	N	111	116	---	---
	X	226.0	231.9	---	---
	SD	6.0	6.6	---	---
GUANICA	N	125	---	---	---
	X	227.1	---	---	---
	SD	6.3	---	---	---
GURABO	N	252	266	33	32
	X	227.8	231.0	236.0	240.3
	SD	7.2	8.7	11.0	12.10
JUNCOS	N	311	---	131	---
	X	226.9	---	238.5	---
	SD	5.6	---	9.2	---
MANATI	N	378	351	56	83
	X	225.9	229.2	235.9	240.0
	SD	5.1	6.9	7.8	9.3
PEÑUELAS	N	282	317	218	152
	X	227.9	232.3	243.3	245.0
	SD	6.3	8.7	9.7	10.0
TOA BAJA	N	689	---	389	---
	X	225.0	---	238.4	---
	SD	6.8	---	9.6	---

Table 2 -c
Test Results by District and Grade
Spanish Reading
Total (Urban and Rural)
April 1972

District		4th	5th	7th	8th	10th	11th
Comerío	N	518	517	409	325	230	178
	$\bar{X}$	228.0	232.0	239.7	244.8	250.3	254.0
	SD	6.7	8.0	9.2	8.9	10.4	11.3
Corozal	N	673	745	511	461	412	313
	$\bar{X}$	225.8	231.0	237.7	241.9	250.4	254.0
	SD	6.1	8.1	10.9	11.1	10.6	12.0
Jayuya	N	487	437	322	262	228	224
	$\bar{X}$	226.4	230.6	240.2	245.0	249.9	255.7
	SD	6.6	8.3	10.5	11.0	9.9	11.5
Las Marías	N	271	206	141	117	73	49
	$\bar{X}$	227.0	231.4	240.7	244.8	250.8	259.5
	SD	6.1	8.2	10.4	9.8	10.8	13.3
Maunabo	N	324	310	240	187	147	120
	$\bar{X}$	229.2	232.0	239.8	245.0	254.0	257.4
	SD	6.4	8.0	9.0	9.7	11.6	12.6
Orocovis	N	647	620	569	483	347	292
	$\bar{X}$	226.2	231.0	239.9	245.0	249.4	251.8
	SD	5.8	7.9	8.7	9.9	10.9	10.7
Cabo Rojo	N	484	507	415	347	267	220
	$\bar{X}$	231.0	235.0	245.0	249.4	256.0	260.3
	SD	7.6	8.8	10.8	11.9	11.6	11.2
Aguadilla	N	988	-	669	-	526	-
	$\bar{X}$	229.3	-	243.1	-	254.0	-
	SD	6.7	-	10.5	-	11.3	-
Camuy	N	531	-	397	-	243	-
	$\bar{X}$	228.0	-	240.9	-	253.7	-
	SD	7.1	-	10.0	-	11.1	-
Cayey	N	1025	-	835	-	561	-
	$\bar{X}$	230.6	-	240.2	-	252.9	-
	SD	7.4	-	9.9	-	9.8	-
Dorado	N	415	424	319	289	186	158
	$\bar{X}$	225.6	230.8	241.0	243.3	253.1	255.9
	SD	6.9	8.3	10.6	10.2	10.6	11.3
Fajardo	N	516	448	424	345	394	325
	$\bar{X}$	229.8	233.9	242.1	248.5	254.0	256.6
	SD	7.7	9.2	10.9	11.2	11.6	13.1
Guánica	N	317	-	248	-	162	-
	$\bar{X}$	228.8	-	242.0	-	252.6	-
	SD	6.6	-	10.9	-	11.7	-
Gurabo	N	349	372	320	256	200	168
	$\bar{X}$	228.4	231.4	239.7	241.8	251.4	255.9
	SD	7.6	9.4	9.8	11.2	10.9	11.4
Juncos	N	504	-	470	-	265	-
	$\bar{X}$	227.0	-	236.6	-	254.0	-
	SD	6.0	-	9.1	-	10.7	-
Manatí	N	615	629	482	518	418	350
	$\bar{X}$	226.0	231.0	240.0	244.8	252.7	254.0
	SD	6.0	9.0	9.1	11.4	11.2	11.0
Peñuelas	N	458	472	421	313	197	167
	$\bar{X}$	228.0	232.0	241.7	245.6	254.0	256.8
	SD	6.4	8.6	10.6	11.4	9.9	11.9
Toa Baja	N	1196	-	986	-	584	-
	$\bar{X}$	227.0	-	240.0	-	250.3	-
	SD	6.8	-	10.5	-	11.7	-

Table 3

Test Results by District, Grade and Zone
English Reading - April 1972

District		6th. Grade			7th. Grade			10th. Grade
		U	R	T	U	R	T	U
*Comerío	N	186	297	483	255	149	404	237
	$\bar{X}$	20.7	19.0	19.7	339.5	340.0	339.7	349.8
	SD	7.35	7.37	7.41	9.70	7.80	9.00	9.20
*Corozal	N	185	428	613	211	288	499	423
	$\bar{X}$	18.9	18.6	18.7	339.2	338.1	338.6	349.7
	SD	8.94	7.47	7.93	9.50	8.60	9.00	9.80
*Jayuya	N	147	268	415	152	172	324	220
	$\bar{X}$	18.3	16.4	17.0	341.2	339.1	340.1	349.6
	SD	9.09	6.21	7.41	11.30	9.40	10.40	9.90
*Las Marías	N	76	146	222	74	66	140	74
	$\bar{X}$	24.5	17.2	19.7	340.6	339.1	339.9	347.8
	SD	9.52	6.95	8.62	9.70	9.20	9.50	8.30
*Maunabo	N	137	156	293	140	87	227	149
	$\bar{X}$	21.7	18.8	20.1	338.2	338.8	338.4	356.7
	SD	8.30	6.42	7.49	8.30	8.30	8.30	15.30
*Orocovis	N	128	450	578	155	405	560	349
	$\bar{X}$	19.2	20.3	20.0	339.5	341.2	340.8	349.3
	SD	8.07	7.57	7.69	10.50	8.90	9.40	9.20
Cabo Rojo	N	131	299	430	231	199	430	274
	$\bar{X}$	27.5	24.2	25.2	349.3	345.2	347.4	360.6
	SD	9.59	9.93	9.94	11.80	10.80	11.50	14.10
Aguadilla	N	318	625	943	290	370	660	518
	$\bar{X}$	26.4	23.1	24.3	344.5	345.8	345.2	355.9
	SD	10.09	10.00	10.15	10.20	11.50	10.90	13.40
Camuy	N	126	304	430	147	250	397	246
	$\bar{X}$	27.3	20.4	22.4	344.1	340.2	341.7	353.1
	SD	10.37	8.76	9.76	9.40	9.30	9.90	10.70
Cayey	N	448	451	899	5 09	328	837	563
	$\bar{X}$	25.4	21.9	23.6	342.2	341.5	342.0	353.7
	SD	8.48	8.56	8.70	9.70	10.20	9.90	12.10
Dorado	N	102	172	274	163	155	318	185
	$\bar{X}$	21.7	24.8	23.6	340.6	340.1	340.4	352.2
	SD	10.34	10.00	10.22	11.80	10.90	11.30	11.10
Fajardo	N	360	97	457	424	0	424	395
	$\bar{X}$	28.7	25.4	28.0	344.2	0	344.2	358.2
	SD	11.11	9.98	10.95	12.60	0	12.60	14.60
Guánica	N	172	122	294	244	0	244	162
	$\bar{X}$	29.2	22.6	26.5	346.8	0	346.8	356.9
	SD	10.62	9.26	10.58	11.10	0	11.10	22.50
Gurabo	N	103	351	454	287	25	312	204
	$\bar{X}$	21.4	17.9	18.7	340.1	342.1	340.2	351.8
	SD	10.97	9.79	10.16	10.60	12.50	10.90	12.40
Juncos	N	213	294	507	339	130	469	265
	$\bar{X}$	20.2	18.3	19.1	339.8	339.5	339.7	353.5
	SD	9.11	7.98	8.52	10.00	10.30	10.00	10.20
Manatí	N	315	386	701	494	56	550	450
	$\bar{X}$	20.4	18.0	19.1	341.1	338.6	340.8	351.6
	SD	9.40	7.85	8.66	11.00	11.10	11.10	12.20
Peñuelas	N	145	264	409	211	213	424	202
	$\bar{X}$	18.1	24.1	22.0	343.9	346.5	345.2	353.9
	SD	8.34	9.93	9.82	9.30	10.00	9.70	10.30
Toa Baja	N	446	609	1055	604	389	993	580
	$\bar{X}$	25.8	18.0	21.3	344.1	339.5	342.3	355.7
	SD	11.60	8.31	10.56	14.00	10.60	12.60	23.40
Totales	N	3738	5719	9457	4930	3282	8212	5496
	$\bar{X}$	23.8	20.2	21.6	342.5	341.4	342.0	354.0
	SD	10.36	8.93	9.67	10.80	10.50	11.00	12.50

*Title I Districts

Table 4 - a
Spanish Reading Test
Fourth Grade
Urban Zone

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Orocovis	140	226.0	119	225.1		0.9		
*Comerío	172	227.0	155	228.0	1.0			
*Maunabo	125	228.0	120	231.0	3.0		x	
*Las Marías	54	224.0	64	228.0	4.0		x	
*Jayuya	138	227.7	143	227.0		0.7		
*Corozal	169	223.0	188	224.5	1.5			
Camuy	128	230.0	119	230.0				
Manatí	279	227.1	237	226.2		0.9		
Cayey	490	232.0	462	232.0				
Gurabo	97	228.0	97	231.0	3.0		x	
Fajardo	292	231.0	405	230.5		0.5		
Juncos	194	228.0	193	227.0		1.0		
Aguadilla	324	229.1	310	228.0		1.1		
Cabo Rojo	174	232.1	157	233.7	1.6			
Guánica	151	233.0	192	230.0		3.0	x	
Peñuelas	108	226.5	458	228.0	1.5			
Dorado	113	219.4	107	227.4	8.0		x	
Toa Baja	422	220.3	507	228.9	8.6		x	

Total Mean Difference
1.34 Not significant

*Title I districts

Table 4 -b

SPANISH READING TEST
FOURTH GRADE
RURAL ZONE

COMPARISON OF TEST SCORES FOR THE YEARS 1971 AND 1972

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
Orocovis	514	227.0	528	226.7		0.3		
Comerío	309	227.0	363	228.0	1.0			
Maunabo	205	226.0	204	228.0	2.0			x
Las Marías	162	225.1	207	226.7	1.6			
Jayuya	344	226.0	344	226.0	0			
Corozal	544	226.9	485	226.0	.9			
Camuy	366	227.0	412	228.0	1.0			
Manatí	383	225.0	378	225.9	0.9			
Cayey	602	228.9	563	229.0	0.1			
Gurabo	300	225.0	252	227.8	2.8		x	
Fajardo	118	228.0	111	226.0		2.0		x
Juncos	320	226.0	311	226.9	0.1			
Aguadilla	662	228.0	678	229.9	1.9			x
Cabo Rojo	349	228.2	327	229.9	1.7			x
Guánica	98	227.0	125	227.1	0.1			
Peñuelas	350	226.6	282	227.9	1.3			
Dorado	315	224.7	308	225.0	0.3			
Toa Baja	708	225.0	689	225.9	0.9			

Total Mean Difference 0.93
Not Significant

Table 4 - c
Spanish Reading Test
Fourth Grade
Urban and Rural

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	654	227.0	647	226.2		0.8		
*Comerío	481	227.0	518	228.0	1.0			
*Maunabo	330	227.0	324	229.2	2.2			x
*Las Marías	216	225.0	271	227.0	2.0			x
*Jayuya	482	226.2	487	226.4	0.2			
*Corozal	713	226.0	673	225.8		0.2		
Camuy	494	227.5	531	228.0	0.5			
Manatí	662	226.0	615	226.0				
Cayey	1092	230.3	1025	230.0		0.3		
Gurabo	397	225.9	349	228.4	2.5			x
Fajardo	400	230.0	516	229.8		0.2		
Juncos	514	227.0	504	227.0				
Aguadilla	986	228.0	988	229.3	1.3			
Cabo Rojo	522	230.0	484	231.0	1.0			
Guánica	249	230.0	317	228.0		2.0		x
Peñuelas	458	226.6	458	228.0	1.4			
Dorado	428	225.0	415	225.6	0.6			
Toa Baja	1130	226.1	1196	227.0	0.9			

Total Mean Difference
0.56 Not significant

*Title I districts

Table 5 - a

Spanish Reading Test
Sixth Grade
Urban Zone

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	137	23.3	130	22.0		1.3		
*Comerío	198	25.4	210	24.8		0.6		
*Barranabo	130	24.2	135	26.1	1.9			x
*Las Marías	57	25.9	71	25.5		0.4		
*Aguayo	87	25.3	148	24.2	1.1			
*Corozal	154	22.2	184	23.2	1.0			
Camuy	109	28.0	124	28.0				
Manatí	205	24.6	305	23.4		1.2		
Cayey	455	30.0	460	29.7		0.3		
Gurabo	121	24.8	158	22.4		2.4		x
Fajardo	309	27.0	359	26.6		0.4		
Juncos	176	25.2	214	24.7		0.5		
Aguadilla	237	28.4	307	27.7		0.7		
Cabo Rojo	166	29.7	133	28.1		1.6		
Guánica	163	27.5	173	27.7	0.2			
Peñuelas	152	24.0	146	24.4	0.4			
Dorado	165	24.1	104	24.0		0.1		
Toa Baja	418	26.0	451	25.4		0.6		

*Title I districts

Total Mean Difference
-0.24 Not significant

Table 5 -b

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SPANISH READING TEST - SIXTH GRADE
RURAL ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
Orocovis	392	24.6	425	23.8		0.8		
Comerío	294	23.5	304	23.0		0.5		
Barranabo	131	23.1	157	22.9		0.2		
Las Marías	123	22.3	147	21.6		0.7		
Naguya	204	24.3	264	22.8		1.5		
Morovis	379	24.2	432	23.2		1.0		
Camuy	287	24.9	307	24.9				
Manatí	323	23.6	394	22.1		1.5		
Cayey	353	27.0	457	26.9		0.1		
Gurabo	260	22.7	323	21.4		1.3		
Fajardo	82	22.1	99	25.3	3.2		x	
Juncos	270	24.0	286	23.5		0.5		
Aguadilla	486	26.1	631	26.3	0.2			
Cabo Rojo	289	27.7	291	26.3		1.4		
Guánica	62	26.0	126	25.1		0.9		
Peñuelas	229	25.1	262	24.1		1.0		
Dorado	179	25.5	169	25.0		0.5		
Isa Baja	528	21.0	618	21.3	0.3			

Total Mean Difference
-0.45 Not significant

*Title I districts

Table 5 -c

SPANISH READING TEST - SIXTH GRADE

Urban and Rural

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	529	24.3	555	23.4		0.9		
*Comerío	492	24.3	514	23.7		0.6		
*Maunabo	261	23.7	292	24.4	0.7			
Las Marías	180	23.5	218	22.9		0.6		
*Jayuya	291	24.6	412	23.3		1.3		
*Corozal	533	23.6	616	23.2		0.4		
Camuy	396	25.7	431	25.8	0.1			
Manatí	528	24.0	699	22.7		1.3		
Cayey	808	28.7	917	28.3		0.4		
Gurabo	381	23.3	481	21.7		1.6		
Fajardo	391	26.0	458	26.4		0.4		
Juncos	446	24.5	500	24.0		0.5		
Aguadilla	723	26.8	938	26.8				
Cabo Rojo	455	28.4	424	26.9		1.5		
Guánica	225	27.1	299	26.6		0.5		
Peñuelas	381	24.7	408	24.2		0.5		
Morado	344	24.8	273	24.7		0.1		
Toa Baja	946	23.2	1069	23.0		0.2		

*Title I districts

Total Mean Difference
-0.56 Not significant

42

Table 6-a

ENGLISH READING TEST

SIXTH GRADE

URBAN ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
Barceloneta	133	18.1	128	19.2	1.1			
Camuy	189	18.2	186	20.7	2.5		x	
Canovanas	129	18.3	137	21.7	3.4		x	
Las Marías	571	20.7	76	24.5	4.5		x	
Hatillo	145	17.5	147	18.3	0.8			
Hormigueros	160	17.8	185	18.9	1.1			
Camuy	110	23.7	126	27.3	3.6		x	
Manatí	265	20.0	315	20.4	0.4			
Cayey	462	24.1	448	25.4	1.3			
Gurabo	124	19.6	103	21.4	1.8			
Fajardo	316	27.8	360	28.7	0.9			
Juncos	179	19.9	213	20.2	0.3			
Aguadilla	235	24.9	318	26.4	1.5			
Cabo Rojo	166	26.9	131	27.5	0.6			
Guánica	167	27.1	172	29.2	2.1			x
Peñuelas	148	19.9	145	18.1		1.8		
Dorado	168	21.8	102	21.7		0.1		
Toa Baja	421	25.0	446	25.8	0.8			

*Title I districts

Total Mean Difference

1.5 Not significant

Table 6-b

ENGLISH READING TEST
SIXTH GRADE
RURAL ZONE

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Orocovis	405	20.1	450	20.3	0.2			
*Comerío	281	18.3	297	19.0	0.7			
*Naranabo	123	19.1	156	18.8		0.3		
*Las Marías	128	17.8	146	17.2		0.6		
*Maricao	185	17.8	268	16.4		1.4		
*Corozal	375	19.1	428	18.6		0.5		
Camuy	288	20.6	304	20.4		0.2		
Hatillo	375	17.7	386	18.0	0.3			
Cayey	349	22.2	451	21.9		0.3		
Gurabo	269	20.8	351	17.9		2.9	x	
Fajardo	83	19.5	97	25.4	5.9		x	
Juncos	266	19.0	294	18.3		0.7		
Aguadilla	506	24.0	625	23.1		0.9		
Cabo Rojo	285	25.0	299	24.2		0.8		
Guánica	62	19.8	122	22.6	2.8		x	
Peñuelas	227	20.2	264	24.1	3.9		x	
Dorado	181	18.9	172	24.8	5.9		x	
Toa Baja	526	17.1	609	18.0	0.9			

Total Mean Difference
0.69 Not significant

*Title I districts

Table 6-c

ENGLISH READING TEST

SIXTH GRADE

URBAN AND RURAL

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Orocovis	538	19.6	578	20.0	0.4			
*Comerío	470	18.3	483	19.7	1.4			
*Naunabo	252	18.7	293	20.1	1.4			
*Las Marías	185	18.7	222	19.7	1.0			
*Naguabo	330	17.7	415	17.0		0.7		
*Corozal	535	18.7	613	18.7	-	-		
Camuy	398	21.5	430	22.4	0.9			
Manatí	640	18.6	701	19.1	0.5			
Cayey	811	23.3	899	23.6	0.3			
Gurabo	393	20.4	454	18.7		1.7		
Fajardo	399	26.0	457	28.0	2.0			x
Juncos	445	19.4	507	19.1	0.3			
Aguadilla	741	24.3	943	24.3	-	-		
Cabo Rojo	451	25.7	430	25.2		0.5		
Guánica	229	25.1	294	26.5	1.4			
Peñuelas	375	20.1	409	22.0	1.9			
Dorado	349	20.3	274	23.6	3.3		x	
Toa Baja	947	20.6	1,055	21.3	0.7			

Total Mean Difference

0.75 Not significant

*Title I districts

Table 7 - a

SPANISH READING TEST

COMPARISON OF TOTAL MEAN SCORES BY SCHOOL DISTRICTS BETWEEN THE YEARS 1971 AND 1972 - SEVENTH GRADE

URBAN ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	162	239.0	161	239.1	0.1			
*Comerío	191	240.9	255	240.0		0.9		
Maunabo	122	240.0	149	240.0				
Las Marías	67	240.0	74	243.6	3.6			x
*Naguya	142	242.4	151	240.6		1.8		
*Corozal	231	237.2	229	236.3		0.9		x
Camuy	160	242.6	146	243.9	1.3			
Manatí	493	240.0	426	240.1	0.1			
Cayey	508	240.9	510	240.0		0.9		
Gurabo	313	237.6	287	240.0	2.4			x
Fajardo	358	243.8	424	242.1		1.7		
Juncos	298	240.1	339	235.9		4.2		x
Aguadilla	248	244.4	293	244.0		0.4		
Cabo Rojo	216	244.8	227	245.9	1.1			
Guánica	304	241.1	248	242.0	0.9			
Peñuelas	160	241.2	203	240.0		1.2		
Dorado	148	239.3	163	240.9	1.6			
Toa Baja	527	240.4	597	240.8	0.4			

Total Mean Difference
0.05 Not significant

*Title I districts

Table 7 - b

SPANISH READING TEST

COMPARISON OF TOTAL MEAN SCORES BY SCHOOL DISTRICTS BETWEEN THE YEARS 1971 and 1972 - SEVENTH GRADE

RURAL ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	392	239.5	408	240.0	0.5			
*Comerío	154	238.1	154	237.7		0.4		
Maunabo	92	237.1	91	238.2	1.1			
Las Marías	71	237.2	67	238.5	1.4			
*Jayuya	143	238.5	171	240.0	1.5			
*Corozal	185	238.2	282	238.9	0.7			
Camuy	229	240.0	251	240.0				
Hatillo	79	237.6	56	235.9		1.7		
Cayey	308	243.0	325	241.5		1.5		
Culebra	37	236.0	33	236.0				
Fajardo	No data							
Juncos	130	240.0	131	238.5		1.5		
Aguadilla	358	241.2	376	242.4	1.2			
Cabo Rojo	179	242.6	188	244.0	1.4			
Guánica	No data							
Peñuelas	188	238.4	218	243.3	4.9		x	
Dorado	143	238.8	156	241.1	2.3			x
Toa Baja	313	238.7	389	238.4		0.3		

Total Mean Difference
0.48 Not significant

* Title I districts

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Table 7 - c

SPANISH READING TEST
SEVENTH GRADE
URBAN AND RURAL

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
Orocovis	554	239.4	569	239.9	0.5			
Comerío	345	240.0	409	239.7		0.3		
Naunabo	214	238.8	240	239.8	1.0			
Las Marías	138	238.3	141	240.7	2.4			x
Maricao	285	240.0	322	240.2	0.2			
Moca	416	237.6	511	237.7	0.1			
Canóvanas	389	241.1	397	240.9		0.2		
Manatí	572	240.0	482	240.0				
Cayey	816	241.7	835	240.2		1.5		
Gurabo	350	237.4	320	239.7	2.3			x
Fajardo	358	243.8	424	242.1		1.7		
Juncos	428	240.0	470	236.0		4.0	x	x
Aguadilla	606	242.5	669	243.1	0.6			
Cabo Rojo	395	243.8	415	245.0	1.2			
Guánica	304	241.1	248	242.0	0.9			
Peñuelas	348	240.0	421	241.7	1.7			
Dorado	291	239.1	319	241.0	1.9			
Toa Baja	840	240.0	986	240.0				

*Title I districts

Total Mean Difference
0.30 Not significant

Table 8 -a

ENGLISH READING TEST - SEVENTH GRADE
URBAN ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	157	341.0	155	339.5		1.5		
*Comerío	191	342.0	255	339.5		2.5		
*Maunabo	120	339.0	140	338.2		0.8		
*Las Marías	66	339.3	74	340.6	1.3			
*Jayuya	140	344.8	152	341.2		3.6		
*Corozal	191	339.2	211	339.2				
Camuy	161	346.3	147	344.1		2.2		x
Manatí	495	341.2	494	341.1		0.1		
Cayey	511	342.6	509	342.2		0.4		
Gurabo	281	338.9	287	340.1	1.2			
Fajardo	362	346.1	424	344.2		1.9		x
Juncos	298	339.4	339	339.8	0.4			
Aguadilla	247	345.5	290	344.5		1.0		
Cabo Rojo	217	347.7	231	349.3	1.6			
Guánica	289	345.0	244	346.8	1.8			
Peñuelas	162	342.9	211	343.9	1.0			
Dorado	151	339.5	163	340.6	1.1			
Toa Baja	527	345.3	604	344.1		1.2		

Total Mean Difference
-0.025 Not significant

*Title I districts

Table 8b

ENGLISH READING TEST
SEVENTH GRADE
RURAL ZONE

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	385	340.7	405	341.2	0.5			
*Comerío	160	337.8	149	340.0	2.2			x
Maunabo	98	342.4	87	338.8		3.6	x	
*Las Marías	67	336.3	66	339.1	2.8		x	
*Jayuya	145	338.9	172	339.1	0.2			
*Corozal	273	337.9	288	338.1	0.2			
Camuy	231	340.2	250	340.2				
Manatí	78	336.7	56	338.6	1.9			x
Cayey	309	342.2	328	341.1		1.1		
Ciarabo	37	339.3	25	342.1	2.8		x	
Fajardo	-	-	-	-	-	-	-	-
Juncos	131	339.3	130	339.5	0.2			
Aguadilla	337	344.1	370	345.8	1.7			
Cabo Rojo	179	345.3	199	341.2		4.1	x	
Guánica	0	-	-	-	-			
Peñuelas	182	341.3	213	346.5	5.2		x	
Dorado	142	337.8	155	340.1	2.3			x
Toa Baja	313	338.3	389	339.5	1.2			

*Title I districts

Total Mean Difference
0.69 Not Significant

Table 8-c

ENGLISH READING TEST

SEVENTH GRADE

URBAN AND RURAL

DISTRICT	1970-71		1971-72		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	542	340.8	560	340.80	-	-	-	-
Comerío	351	340.1	404	339.70	-	0.4	-	-
Maunabo	218	340.3	227	338.40	-	1.9	-	-
*Las Marías	133	337.8	140	339.90	2.10	-	-	x
*Jayuya	285	341.8	324	340.10	-	1.70	-	-
*Corozal	464	338.4	499	338.60	0.2	-	-	-
Camuy	392	342.7	397	341.70	-	1.00	-	-
Manatí	573	340.6	550	340.80	0.2	-	-	-
Cayey	820	342.5	837	342.00	-	0.5	-	-
Gurabo	318	338.9	312	340.20	1.30	-	-	-
Fajardo	362	346.1	424	344.20	-	1.9	-	-
Juncos	429	339.4	469	339.70	0.3	-	-	-
Aguadilla	584	344.7	660	345.20	0.5	-	-	-
Cabo Rojo	396	346.6	430	347.70	1.10	-	-	-
Guánica	289	345.0	244	346.80	1.80	-	-	-
Peñuelas	344	342.1	424	345.20	3.10	-	x	x
Dorado	293	338.7	318	340.40	1.70	-	-	-
Toa Baja	840	342.7	993	342.30	-	0.4	-	-

Total Mean Difference
0.25 Not Significant

*Title I districts

Table 9

Spanish Reading Test

Tenth Grade

DISTRICT	1970-71 N	1970-71 $\bar{X}$	1971-72 N	1971-72 $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Orocovis	347	251.1	347	249.4		1.7		
Comerfo	239	251.8	230	250.3		1.5		
Manabo	131	253.4	147	254.0	0.6			
San Marfas	53	253.4	73	250.8		2.6	x	
Aguayo	253	252.6	228	249.9		2.7	x	
Corozal	357	250.0	412	250.4	0.4			
Camuy	184	253.9	243	253.7		0.2		
Manatí	295	249.1	418	252.7	3.6		x	
Cayey	258	254.4	561	252.9		1.5		
Gurabo	186	251.7	200	251.4		0.3		
Fajardo	350	254.5	394	254.0		0.5		
Juncos	237	252.5	265	254.0	1.5			
Aguadilla	256	254.0	526	254.0				
Cabo Rojo	230	255.8	267	256.0	0.2			
Guánica	174	253.1	162	252.6		0.5		
Peñuelas	---	-----	197	254.0				
Dorado	181	253.2	186	253.1		0.1		
Toa Baja	465	251.0	584	250.3		0.7		

*Title I districts

Total Mean Difference

-0.33 (Not significant)

Table 10

English Reading Test
Tenth Grade

DISTRICT	1970-71 10th N	1970-71 10th $\bar{X}$	1971-72 10th N	1971-72 10th $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Crocovis	337	351.2	349	349.3		1.9		X
*Comerío	235	349.7	237	349.8	0.1			
*Naunabo	139	351.4	149	356.7	5.3		X	
*Las Marías	57	350.4	74	347.8		2.6	X	
*Jayuya	250	350.8	220	349.6		0.2		
*Corozal	367	349.8	423	349.7		0.1		
Camuy	185	353.6	246	353.1		0.5		
Manatí	261	349.5	450	351.6	2.1			
Cayey	563	355.0	563	353.7		1.3		
Gurabo	187	353.2	204	351.8		1.4		
Fajardo	315	356.4	395	358.2	1.8			
Juncos	237	357.8	265	353.5		4.3	X	
Aguadilla	521	356.6	518	355.9		0.7		
Cabo Rojo	244	360.3	274	360.6	0.3			
Guánica	173	353.6	162	356.9	3.3		X	
Peñuelas	205	353.7	202	353.9	0.2			
Dorado	181	351.5	185	352.2	0.7			
Toa Baja	461	353.8	580	355.7	1.9			X

*Title I districts

Total Mean Difference
0.2 Not significant

Table 11-A

Spanish Reading Test
Comparison of Test Scores for the Same Group of Students
in Two Consecutive Years
Urban Zone

DISTRICT	1970-71 - 4th		1971-72 -5th		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	140	226.0	278	233.4	7.4		X	
* Comerío	172	227.0	200	233.2	6.2		X	
*Maunabo	125	228.0	118	235.0	7.0		X	
*Las Marías	54	224.0	63	233.0	9.0		X	
*Jayuya	138	227.7	149	230.9	3.2		X	
*Corozal	169	223.0	216	228.0	5.0		X	
Manatí	279	227.1	278	233.4	6.3		X	
Gurabo	97	228.0	106	233.2	5.2		X	
Fajardo	282	231.0	332	235.0	4.0		X	
Cabo Rojo	174	232.1	165	238.0	5.9		X	
Peñuelas	108	226.5	155	231.0	4.5		X	
Dorado	113	219.4	174	232.5	13.1		X	

*Title I districts

Total Mean Difference
6.4 Significant

Table 11-b

Spanish Reading Test
Comparison of Test Scores for the same Groups of Students in two consecutive years
Rural Zone

DISTRICT	1970-71 4th		1971-72 5th		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	514	227.0	472	232	5.0		X	
*Comerío	309	227.0	317	231.7	4.7		X	
*Maunabo	205	226.0	192	231.0	5.0		X	
*Las Marías	162	225.1	143	231.0	5.9		X	
*Jayuya	344	226.0	288	230.5	4.5		X	
*Corozal	544	226.9	529	231.9	5.0		X	
Manatí	383	225.0	351	229.2	4.2		X	
Gurabo	300	225.0	266	231.0	6.0		X	
Fajardo	118	228.0	116	231.9	3.9		X	
Cabo Rojo	348	228.2	342	233.0	4.8		X	
Peñuelas	350	226.6	317	232.3	5.7		X	
Dorado	315	224.7	529	231.9	7.2		X	

*Title I Districts

Total Mean Difference
5.15 Significant at 1% level

Table 12-A

Spanish Reading Test
Comparison of Test Scores for the Same Groups of Students
Urban Zone

DISTRICT	1970-71 -7th		1971-72-8th		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	162	239.0	150	245.1	6.1		X	
*Comerío	191	240.9	168	246.2	5.3		X	
*Maunabo	122	240.0	114	246.2	5.3		X	
*Las Marías	67	240.0	58	247.8	7.8		X	
*Jayuya	142	242.4	126	247.3	4.9		X	
*Corozal	231	237.2	216	242.8	5.6		X	
Manatí	493	240.0	435	245.0	5.0		X	
Gurabo	313	237.6	224	242.1	4.5		X	
Fajardo	358	243.8	345	248.5	4.7		X	
Cabo Rojo	216	244.8	202	249.9	5.1		X	
Peñuelas	160	241.2	161	246.9	5.7		X	
Dorado	148	239.3	151	243.8	4.5		X	

Total Mean Difference
5.45 Significant at 1% level

*Title I districts

Table 12 b

SPANISH READING TEST

COMPARISON OF TEST SCORES FOR THE SAME GROUP OF STUDENTS IN TWO CONSECUTIVE YEARS
RURAL ZONE

DISTRICT	1970-71 7th		1971-72 8th		Difference		Level of Significance	
	N	$\bar{X}$	N	$\bar{X}$	+	-	1%	5%
*Orocovis	392	239.5	333	244.5	5.0		x	
*Comerío	154	238.1	157	242.1	4.0		x	
*Maunabo	92	237.1	73	241.8	4.7		x	
*Las Marías	71	237.2	59	240.8	3.6		x	
*Jayuya	143	238.5	136	242.4	3.9		x	
*Corozal	185	238.2	245	241.1	2.9		x	
Manatí	79	240.0	83	240.0	0			
Gurabo	37	236.0	32	240.3	4.3		x	
Fajardo								
Cabo Rojo	179	242.6	145	249.0	6.4		x	
Peñuelas	188	238.4	152	245.0	6.6		x	
Dorado	143	238.8	138	242.8	3.0		x	

*Title I Districts

Total Mean Difference

3.7 Significant at 1% level

Table 13

SPANISH READING TEST
COMPARISON OF TEST SCORES FOR THE SAME GROUPS OF STUDENTS IN TWO CONSECUTIVE YEARS

DISTRICT	1970-71 10th N	1970-71 10th $\bar{X}$	1971-72 11th N	1971-72 11th $\bar{X}$	Difference +	Difference -	Level of Significance 1%	Level of Significance 5%
*Orocovis	347	251.1	292	251.8	0.7			
*Comerío	239	251.8	178	254.0	2.2			x
*Maunabo	131	253.4	120	257.4	4.0		x	
*Las Marías	53	253.4	47	259.5	6.1		x	
*Jayuya	253	252.6	224	255.7	3.1		x	
*Corozal	357	250.0	313	254.0	4.0		x	
Manatí	295	249.1	350	254.0	4.9		x	
Gurabo	186	251.7	168	255.9	4.2		x	
Fajardo	350	254.5	325	256.6	2.1			x
Cabo Rojo	230	255.8	220	260.3	4.5		x	
Peñuelas	-	-	167	256.8				
Dorado	181	253.7	158	255.9	2.7		x	

*Title I districts

Total Mean Difference

3.20 Significant at 1% level

TABLE 14
DIFFERENCE OF THE
MEANS OF THE 4th GRADE ON THE
SPANISH READING TEST ADMINISTERED IN APRIL 1972

BETWEEN	N ZONE U	R	T	Basic Statistics SD	Mean	SE	Statistics for comparison N_t	$\bar{X}_1-\bar{X}_2$	SE_c	$\frac{\bar{X}_1-\bar{X}_2}{SE_c}$	Test of significance C-R $\frac{1.96}{5\%}$
6 Tit. I Districts	789			12.4	26.3	0.441					
		2131		11.0	26.1	0.238	2920	0.200	0.502	0.399	No
12 Non Tit. I	2962			13.5	31.1	0.248					
		4436		11.8	27.3	0.177	7398	3.800	0.305	12.466	1%
6 Tit. I Districts	789			12.4	26.3	0.441					
12 Non Tit. I	2962			13.5	31.1	0.248	3751	4.800	0.506	9.479	1%
6 Tit. I Districts		2131		11.0	26.1	0.238					
12 Non Tit. I		4436		11.8	27.3	0.177	6567	1.200	0.297	4.041	1%
6 Tit. I Districts			2920	11.4	26.1	0.211					
12 Non Tit. I			7398	12.7	28.8	0.148	10318	2.700	0.258	10.485	1%

TABLE 15
DIFFERENCE OF THE MEANS
OF THE 5th GRADE ON THE SPANISH
READING TEST ADMINISTERED IN APRIL 1972

BETWEEN	N Zone U	N Zone R	N Zone T	Basic Statistics SD	Basic Statistics Mean	Basic Statistics SE	Statistics for comparison N_t	Statistics for comparison $\bar{X}_1 - \bar{X}_2$	Statistics for comparison SE_c	Statistics for comparison $\frac{\bar{X}_1 - \bar{X}_2}{SE_c}$	Test of significance C-R 1.96 5%
6 Tit. I Districts	894			14.0	33.7	0.468					
		1941		13.2	34.4	0.300	2835	0.700	0.556	1.259	No
12 Non Tit. I	1210			15.8	39.1	0.454					
		1642		13.9	33.7	0.343	2852	5.400	0.569	9.487	1%
6 Tit. I Districts	894			14.0	33.7						
12 Non Tit. I	1210			15.8	39.1		2104	5.400	0.616	7.000	1%
6 Tit. I Districts		1941		13.2	34.4	0.300					
12 Non Tit. I		1642		13.9	33.7	0.343	3583	0.700	0.458	1.537	No
6 Tit. I Districts			2835	13.5	34.1	0.254					
12 Non Tit. I			2852	15.0	36.0	0.281	5687	1.900	0.378	5.021	1%

TABLE 16
DIFFERENCE OF THE MEANS
OF THE 6th GRADE ON THE SPANISH
READING (Battery) TEST ADMINISTERED IN APRIL 1972

BETWEEN	N Zone U	R	T	Basic Statistics SD	Mean	SE	Statistics for comparison N_t	$\bar{X}_1-\bar{X}_2$	SE_c	$\frac{\bar{X}_1-\bar{X}_2}{SE_c}$	Test of significance C-R 1.96 5%
6 Tit. I Districts	878			8.1	24.2	0.273					
		1729		8.2	23.1	0.197	2607	1.100	0.337	3.263	1%
12 Non Tit. I	2934			9.1	26.3	0.168					
		3963		8.6	24.2	0.137	6897	2.100	0.217	9.698	1%
6 Tit. I Districts	878			8.1	24.2	0.273					
12 Non Tit. I	2934			9.1	26.3	0.168	3812	2.100	0.321	6.545	1%
6 Tit. I Districts		1729		8.2	23.1	0.197					
12 Non Tit. I		3963		8.6	24.2	0.137	5692	1.100	0.240	4.585	1%
6 Tit. I Districts			2607	8.2	23.5	0.161					
12 Non Tit. I			6897	8.9	25.1	0.107	9504	1.600	0.193	8.287	1%

Table 17

DIFFERENCE OF THE MEANS OF THE 7th GRADE
ON THE SPANISH
READING TEST ADMINISTERED IN APRIL 1972

BETWEEN	N ZONE U.	N ZONE R.	N ZONE T	BASIC STATISTICS SD	BASIC STATISTICS Mean	BASIC STATISTICS SE	Statistics for comparison Nt	Statistics for comparison $\overline{X}_1 - \overline{X}_2$	Statistics for comparison SEc	Statistics for comparison $\frac{\overline{X}_1 - \overline{X}_2}{SEc}$	Test of significance C.R. 1.96 / 5%
6 Title I Districts	1019			12.9	33.9	0.404					
		1173		10.8	33.4	0.315	2192	0.500	0.513	0.975	
12 NON-Title I Districts	3863			13.0	35.7	0.209					
		2123		12.3	35.5	0.267	5986	0.200	0.339	0.590	
6 Title I Districts	1019			12.9	33.9	0.404					
12 NON-Title I Districts	3863			13.0	35.7	0.209	4882	1.800	0.455	3.956	1%
6 Title I Districts		1173		10.8	33.4	0.315					
12 NON-Title I Districts		2123		12.3	35.5	0.267	3296	2.100	0.413	5.083	1%
6 Title I Districts			2192	11.8	33.6	0.252					
12 NON-Title I Districts			5986	12.7	35.6	0.164	8178	2.000	0.301	6.649	1%

Table 18

DIFFERENCE OF THE MEANS OF THE 8th GRADE ON THE SPANISH READING TEST ADMINISTERED IN APRIL 1972

BETWEEN	N ZONE U.	N ZONE R.	N ZONE T	BASIC STATISTICS SD	BASIC STATISTICS Mean	BASIC STATISTICS SE	Statistics for comparison Nt	Statistics for comparison $\overline{X}_1 - \overline{X}_2$	Statistics for comparison SEc	Statistics for comparison $\frac{\overline{X}_1 - \overline{X}_2}{SEc}$	Test of significance C.R. 1.96 5%
6 Title I Districts	832			13.5	41.10	0.468					
		1003		12.5	37.60	0.395	1835	3.5	0.612	5.717	1%
6 NON-Title I Districts	1518			14.5	41.90	0.372					
		550		13.4	40.60	0.571	2068	1.300	0.682	1.906	
6 Title I Districts	832			13.5	41.10	0.468					
6 NON-Title I Districts	1518			14.5	41.90	0.372	2350	0.800	0.598	1.338	
6 Title I Districts		1003		12.5	37.60	0.395					
6 NON-Title I Districts		550		13.4	40.60	0.571	1553	3.000	0.694	4.320	1%
6 Title I Districts			1835	13.1	39.2	0.306					
6 NON-Title I Districts			2068	14.2	41.6	0.312	3903	2.400	0.437	5.491	1%

TABLE 19

DIFFERENCE OF THE MEANS OF THE 10th GRADE
ON THE SPANISH
READING TEST ADMINISTERED IN APRIL 1972

BETWEEN	N ZONE U.	R.	T	BASIC STATISTICS SD	Mean	SE	Statistics for comparison Nt	$\overline{X}_1 - \overline{X}_2$	SEc	$\frac{\overline{X}_1 - \overline{X}_2}{SEc}$	Test of significance C. R. 1.96 5%
6 Title I Districts	1437			11.7	30.5	0.309					
12 NON-Title I Districts	4003			12.9	33.2	0.204	5440	2.700	0.370	7.299	1%

DIFFERENCE OF THE MEANS OF THE 11TH GRADE SPANISH READING TEST ADMINISTERED IN APRIL 1972

Table 20

BETWEEN	N ZONE U.	R.	T.	Basic Statistics SD	Mean	SE	Statistics for comparison N t	$\bar{X}_1 - \bar{X}_2$	SE c	$\frac{\bar{X}_1 - \bar{X}_2}{SE\ c}$	Test of Significance C - R 1.96 5%
6 Title I Districts	1176			13.6	35.0	0.397					
6 Non Title I Dist.	1388			14.0	37.2	0.376	2564	2.200	0.546	4.027	1%

DIFFERENCE OF THE MEANS OF THE 6TH GRADE ON THE ENGLISH READING (Battery) TEST ADMINISTERED IN APRIL 1972

Table 21

BETWEEN	N ZONE U.	R.	T.	Basic Statistics SD	Mean	SE	Statistics for comparison N t	$\bar{X}_1 - \bar{X}_2$	SE c	$\frac{\bar{X}_1 - \bar{X}_2}{SE\ c}$	Test of Significance C - R 1.96 5%
6 Title I Districts	859			8.6	20.2	0.293					
		1745		7.3	18.6	0.173	2604	1.600	0.342	4.685	1%
12 Non Title I Dist.	2879			10.6	24.8	0.198					
		3974		9.5	20.9	0.151	6853	3.900	0.248	15.696	1%
6 Title I Districts	859			8.6	20.2	0.293					
12 Non Title I Dist.	2879			10.6	24.8	0.198	3738	4.600	0.354	13.004	1%
6 Title I Districts		1745		8.6	18.6	0.173					
12 Non Title I Dist.		3974		9.5	20.9	0.151	5719	2.300	0.231	9.967	1%
6 Title I Districts			2604	7.8	19.2	0.153					
12 Non Title I Dist.			6853	10.1	22.6	0.122	9457	3.400	0.196	17.385	1%

DIFFERENCE OF THE MEANS OF THE 7TH GRADE ON THE ENGLISH READING TEST ADMINISTERED IN APRIL 1972

Table 22

BETWEEN	N ZONE U.	R.	T.	Basic Statistics SD	Mean	SE	Statistics for comparison N t	$\bar{X}_1 - \bar{X}_2$	SE c	$\frac{\bar{X}_1 - \bar{X}_2}{SE_c}$	Test of Significance C-R 1.96 5%
6 Title I Districts	987			9.9	24.6	0.315					
		1167		8.8	24.7	0.258	2154	0.100	0.407	0.246	No
12 Non Title I Dist.	3943			12.1	28.2	0.193					
		2115		11.3	27.3	0.246	6058	0.900	0.312	2.882	1%
6 Title I Districts	987			9.9	24.6	0.315					
12 Non Title I Dist.	3943			12.1	28.2	0.193	4930	3.600	0.369	9.746	1%
6 Title I Districts		1167		8.8	24.7	0.258					
12 Non Title I Dist.		2115		11.3	27.3	0.246	3282	2.600	0.356	7.303	1%
6 Title I Districts			2154	9.3	24.7	0.200					
12 Non Title I Dist.			6058	11.8	27.9	0.152	8212	3.200	0.251	12.735	1%

DIFFERENCE OF THE MEANS OF THE 10TH GRADE ON THE ENGLISH READING TEST ADMINISTERED IN APRIL 1972

Table 23

BETWEEN	N ZONE U.	R.	T.	Basic Statistics SD	Mean	SE	Statistics for comparison N	$\bar{X}_1 - \bar{X}_2$	SE_c	$\frac{\bar{X}_1 - \bar{X}_2}{SE}$	Test Significance C - R 1.96 5%
6 Title I Districts	1452			9.4	24.1	0.247					
12 Non Title I Dist.	4044			12.0	28.0	0.189	5496	3.900	0.311	12.557	

TABLE 24

Interquartile Ranges of Test Scores
Spanish Reading
Grades 4, 7 and 10

DISTRICTS		4th				7th				10th			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
*Orocovis	N	218	182	157	90	146	168	151	104	130	89	70	58
	%	33.7	28.1	24.3	13.9	25.7	29.5	26.5	18.3	37.5	25.6	20.2	16.7
*Comerío	N	129	137	139	113	113	120	104	72	82	54	57	37
	%	24.9	26.4	26.8	21.8	27.6	29.3	25.4	17.6	35.7	23.5	24.8	16.1
*Maunabo	N	58	84	97	85	65	72	59	44	34	30	42	41
	%	17.9	25.9	29.9	26.2	27.1	30.0	24.6	18.3	23.1	20.4	28.6	27.9
*Las Marías	N	88	61	64	58	40	32	33	36	20	27	12	14
	%	32.5	22.5	23.6	23.6	28.4	22.7	23.4	25.5	27.4	37.0	16.4	19.2
*Jayuya	N	180	106	110	91	84	83	83	72	75	68	46	39
	%	37.0	21.8	22.6	18.7	26.1	25.8	25.8	22.4	32.9	29.8	20.2	17.1
*Corozal	N	292	163	122	96	194	114	114	89	131	119	90	72
	%	43.4	24.2	18.1	14.3	38.0	22.3	22.3	17.4	31.8	28.9	21.8	17.5
Camuy	N	126	136	147	122	96	93	112	96	57	59	61	66
	%	23.7	25.6	27.7	23.0	24.2	23.4	28.2	24.2	23.5	24.3	25.1	27.2
Manatí	N	248	141	134	92	137	113	126	106	118	107	86	107
	%	40.3	22.9	21.8	15.0	28.4	23.4	26.1	22.0	28.2	25.6	20.6	25.6
Cayey	N	136	224	326	339	221	217	196	201	121	171	143	126
	%	13.3	21.9	31.8	33.1	26.5	26.0	23.5	24.1	21.6	30.5	25.5	22.5
Gurabo	N	86	80	91	92	99	75	70	76	66	47	44	43
	%	24.6	22.9	26.1	26.4	30.9	23.4	21.9	23.8	33.0	23.5	22.0	21.5
Fajardo	N	115	122	111	168	99	94	106	125	82	101	96	115
	%	22.3	23.6	21.5	32.6	23.3	22.2	25.0	29.5	20.8	25.6	24.4	29.2
Juncos	N	170	129	112	93	220	101	90	59	50	67	73	75
	%	33.7	25.6	22.2	18.5	46.8	21.5	19.1	12.6	18.9	25.3	27.5	28.3
Aguadilla	N	198	209	286	295	139	159	157	214	132	131	113	150
	%	20.0	21.2	28.9	29.9	20.8	23.8	23.5	32.0	25.1	24.9	21.5	28.5
Cabo Rojo	N	62	106	131	185	57	87	118	153	48	52	83	84
	%	12.8	21.9	27.1	38.2	13.7	21.0	28.4	36.9	18.0	19.5	31.1	31.5
Guánica	N	70	74	87	86	49	69	60	70	52	27	41	42
	%	22.1	23.3	27.4	27.1	19.8	27.8	24.2	28.2	32.1	16.7	25.3	25.9
Peñuelas	N	122	108	126	102	85	101	123	112	39	54	55	49
	%	26.6	23.6	27.5	22.3	20.2	24.0	29.2	26.6	19.8	27.4	27.9	24.9
Dorado	N	192	82	84	57	79	76	81	83	47	50	50	39
	%	46.3	19.8	20.2	13.7	24.8	23.8	25.4	26.0	25.3	26.9	26.9	21.0
Toa Baja	N	412	264	279	241	303	249	211	223	208	137	127	112
	%	34.4	22.1	23.3	20.2	30.7	25.3	21.4	22.6	35.6	23.5	21.7	19.2

*Title I Districts

TABLE 25-a

INTERQUARTILE RANGES OF TEST SCORES
SPANISH READING TEST
FOURTH GRADE
APRIL 1972

	PERCENTAGE OF STUDENTS WITHIN EACH QUARTILE							
	0 - 25		26 - 50		51 - 74		75 - 99	
	N	%	N	%	N	%	N	%
18 district Sample N= 10,326	2,902	28.1	2,408	23.3	2,603	25.2	2,405	23.3
Title I Districts Total N= 2,920	965	33.0	733	25.1	689	23.6	533	18.3
NON-Title I Districts Total N= 7,398	1,937	26.2	1,675	22.6	1,914	25.9	1,872	25.3

TABLE 25- b

INTERQUARTILE RANGES OF TEST SCORES

SPANISH READING TEST

SEVENTH GRADE

APRIL 1972

Group	PERCENTAGE OF STUDENTS WITHIN EACH QUARTILE							
	0 - 25		26 - 50		51 - 74		75 - 99	
	N	%	N	%	N	%	N	%
18 district Sample N = 8,178	2,226	27.2	2,023	24.7	1,994	24.4	1,935	23.7
Title I Districts N = 2,192	642	29.3	589	26.9	544	24.8	417	19.0
NON-Title I Districts N = 5,986	1,584	26.5	1,434	24.0	1,450	24.2	1,518	25.4

TABLE 25-c

INTERQUARTILE RANGES OF TEST SCORES

SPANISH READING TEST

TENTH GRADE

APRIL 1972

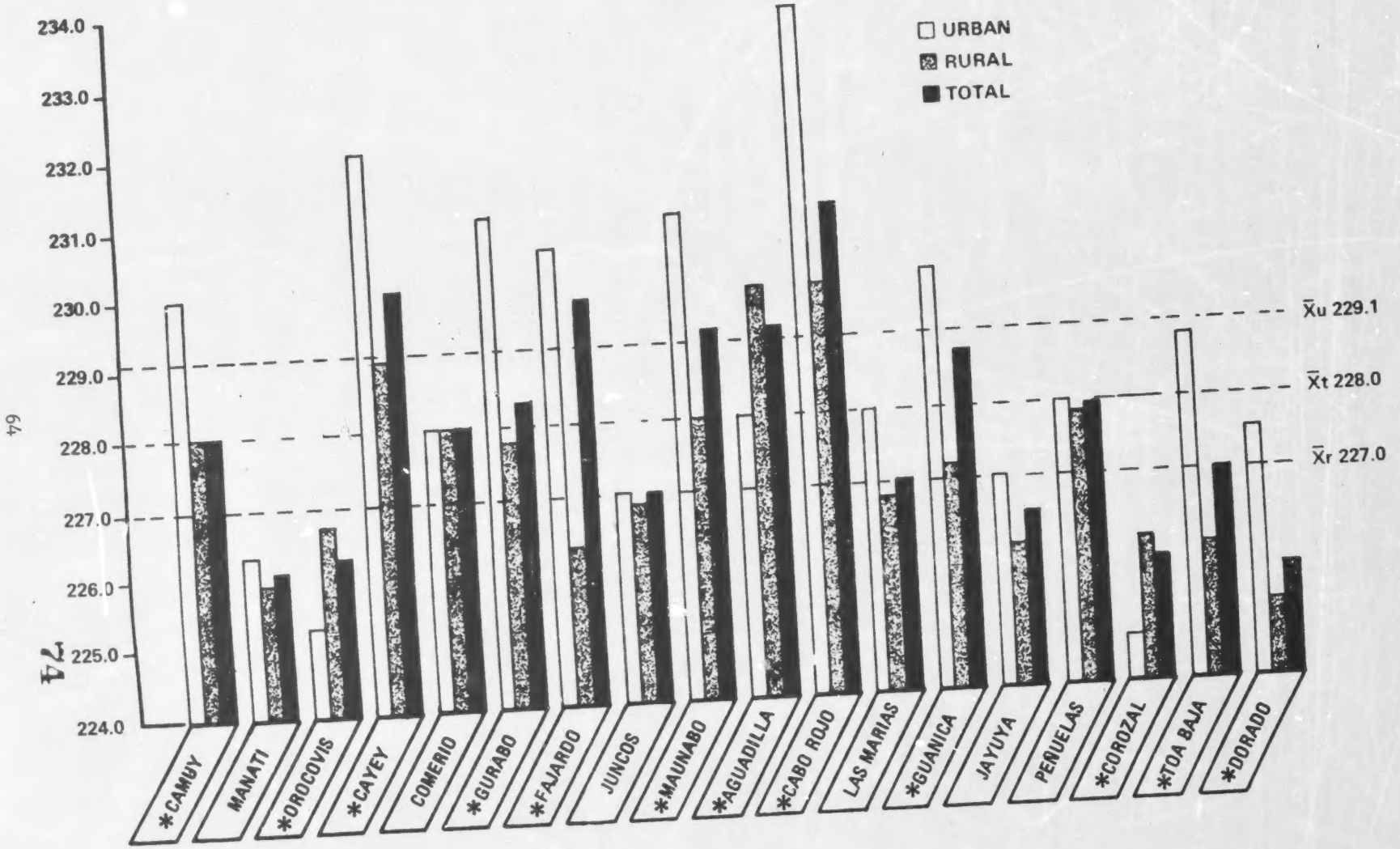
Group	PERCENTAGE OF STUDENTS WITHIN EACH QUARTILE							
	0 - 25		26 - 50		51 - 74		75 - 99	
	N	%	N	%	N	%	N	%
18 district Sample N = 5,440	1,492	27.4	1,390	25.6	1,289	23.7	1,269	23.3
Title I Districts N = 1,437	472	32.8	387	26.9	317	22.1	261	18.2
NON-Title I Districts N = 4,003	1,020	25.5	1,003	25.0	972	24.3	1,008	25.2

Table 26
Rank Order by District
Spanish Reading
1971-1972

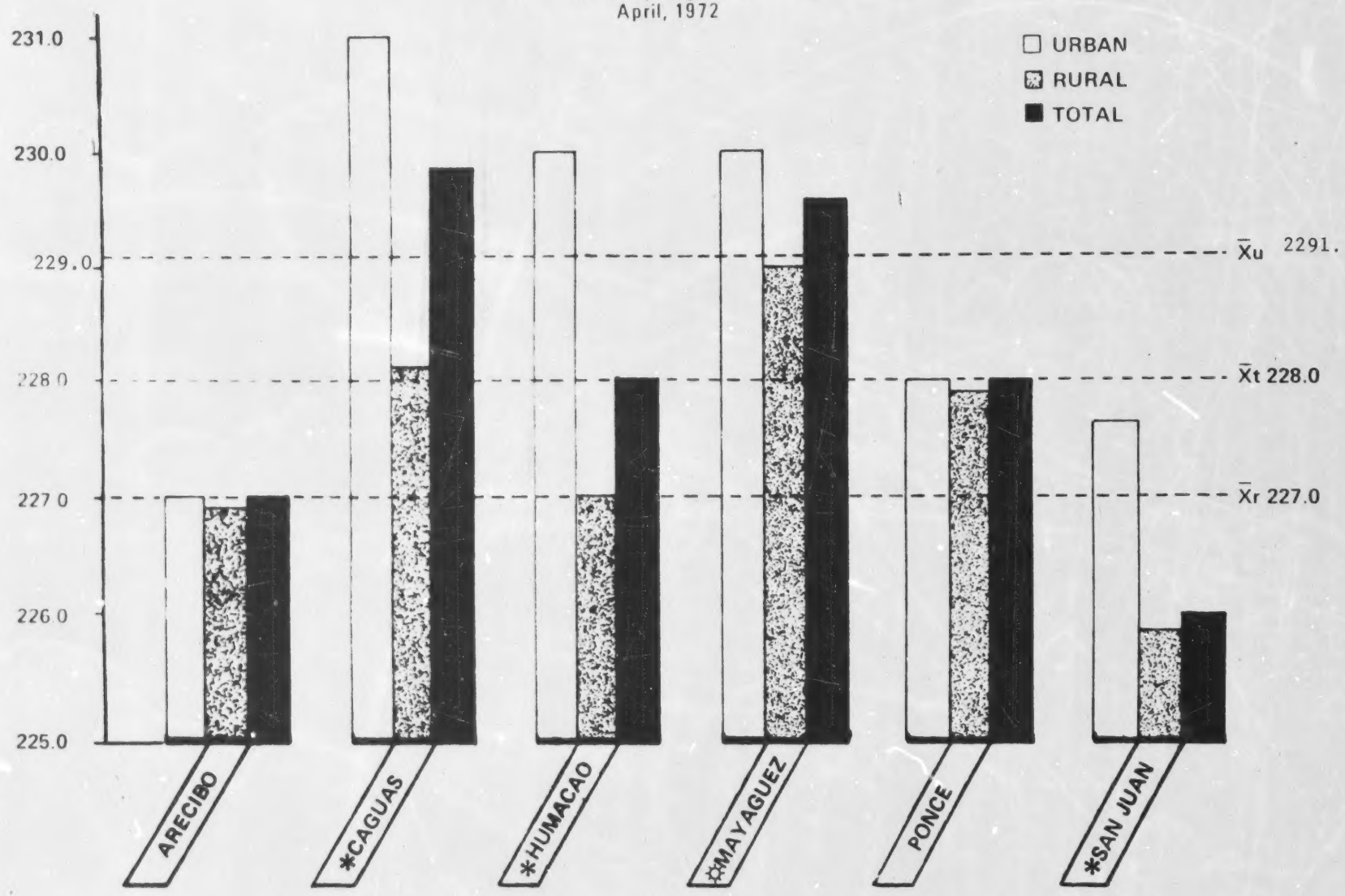
District	A 4th Grade	B 7th Grade	C 10th Grade	A+B+C	A+B+C / 3	R/ QT
* Comerío	9	15	13.5	37.5	12.5	14
* Corozal	18	17	15	50	16.7	18
* Jayuya	13	9.5	16	38.5	12.8	15
* Las Marías	11	8	18	37	12.3	13
* Maunabo	4	16	2	22	7.3	7.5
* Orocovis	15	13	17	45	15	17
Cabo Rojo	1	1	1	3	1	1
Aguadilla	3	3	8	14	4.7	2.5
Camuy	7.5	5.5	6	19	6.3	5
Cayey	2	11	9	22	7.3	7.5
Dorado	17	7	10	34	11.3	10
Fajardo	6	4	4	14	4.7	2.5
Guánica	7.5	5.5	7	20	6.7	6
Gurabo	5	12	12	29	9.7	9
Juncos	14	18	3	35	11.7	11.5
Manatí	16	9.5	10	35 5	11.7	11.5
Peñuelas	10	2	5	17	5.7	4
Toa Baja	12	14	13.5	39.5	13.2	16

* Title I Districts

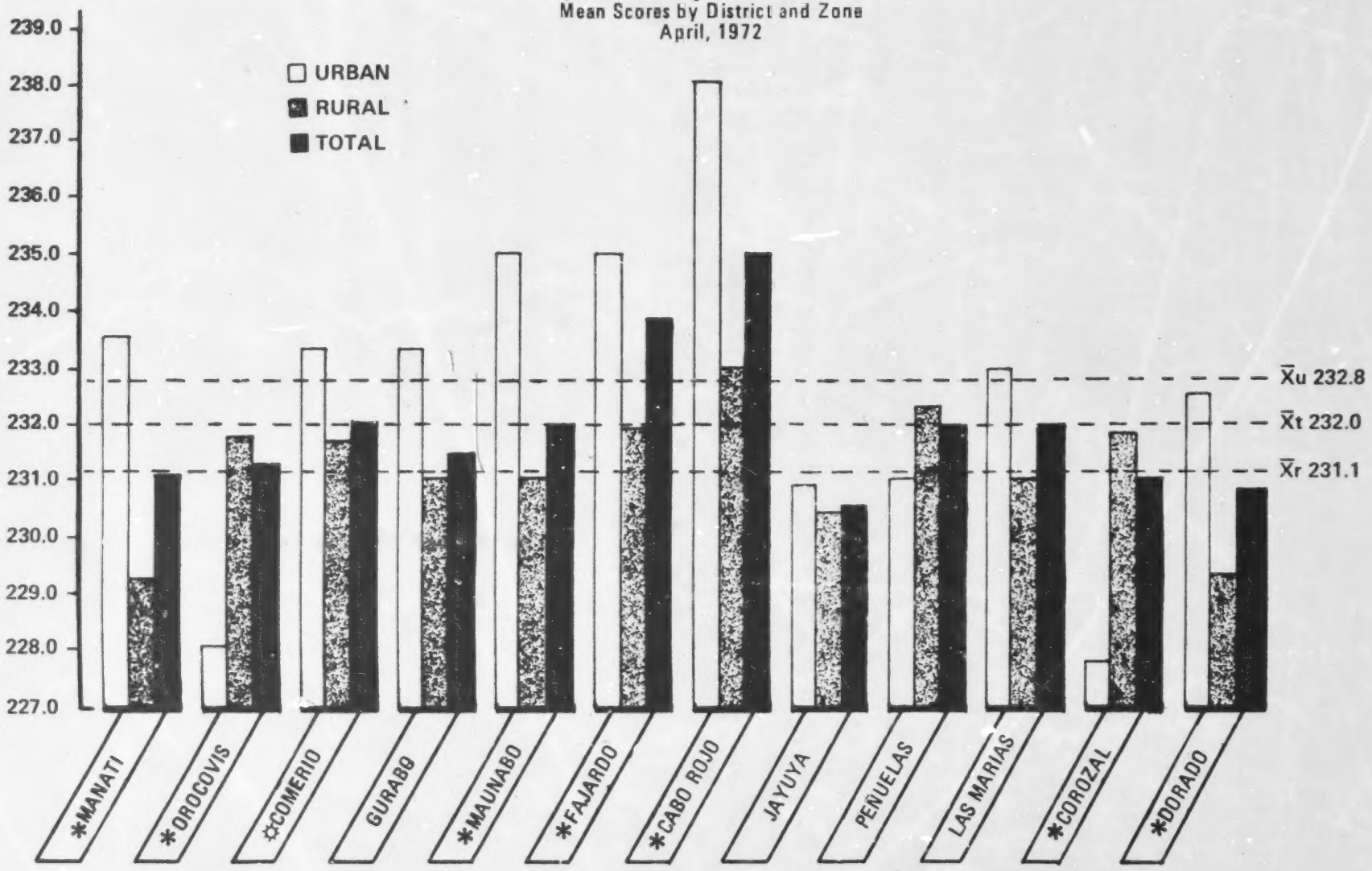
GRAPH 1-A
Spanish Reading Test - Fourth Grade
Mean Scores by District and Zone
April, 1972



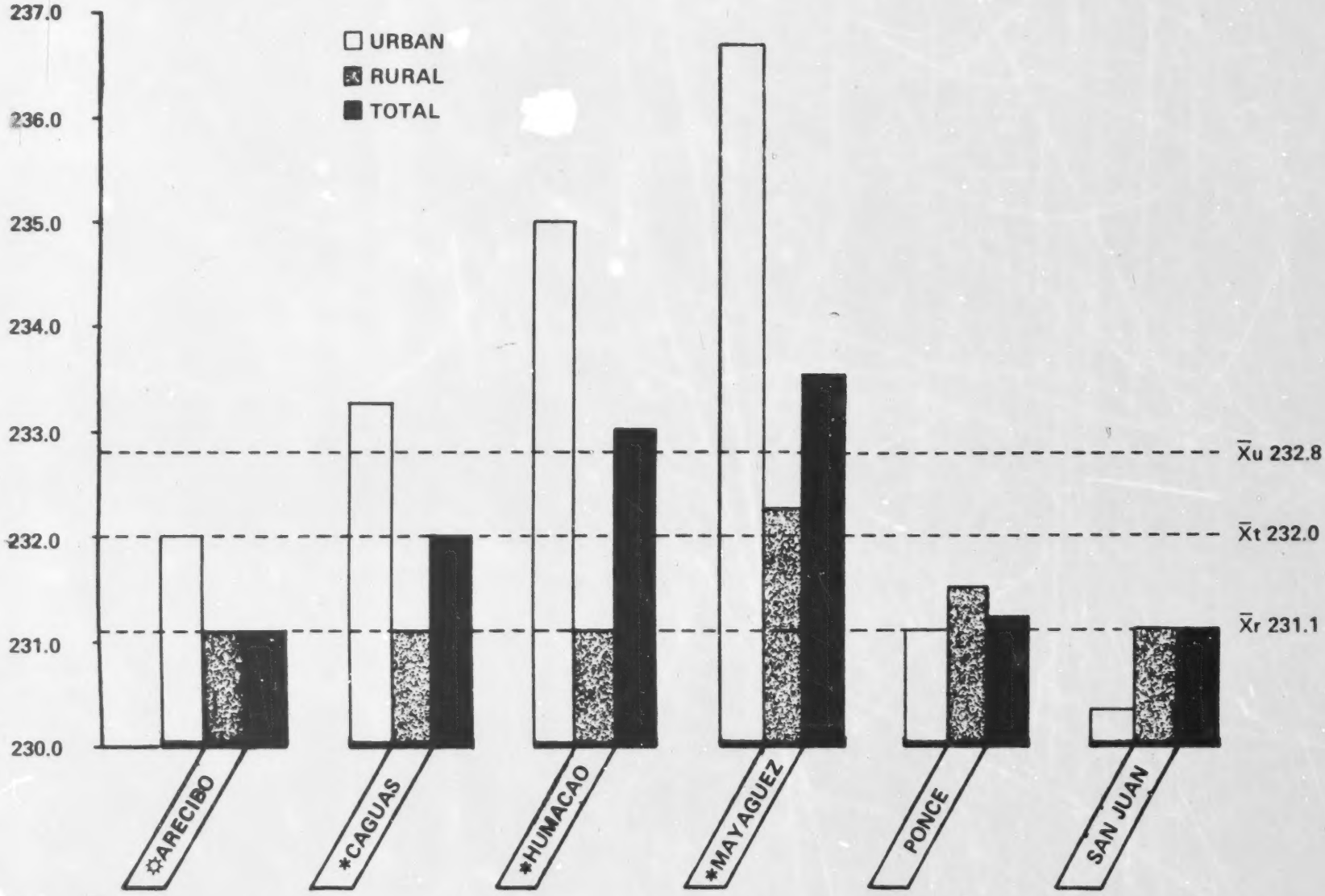
GRAPH 1-B
Spanish Reading Test - Fourth Grade
Mean Scores by Regions and Zone
April, 1972



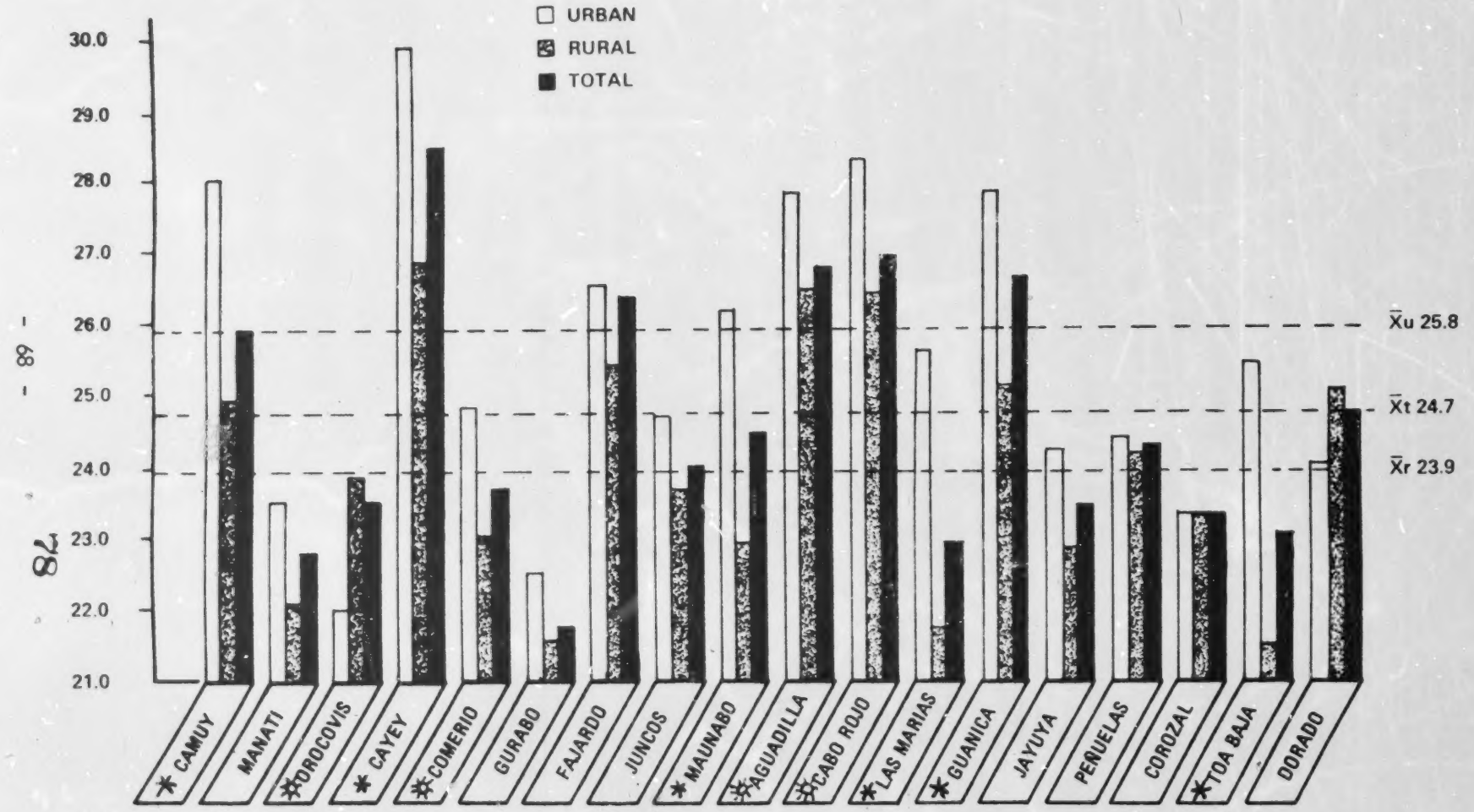
GRAPH 2-A
Spanish Reading Test - Fifth Grade
Mean Scores by District and Zone
April, 1972



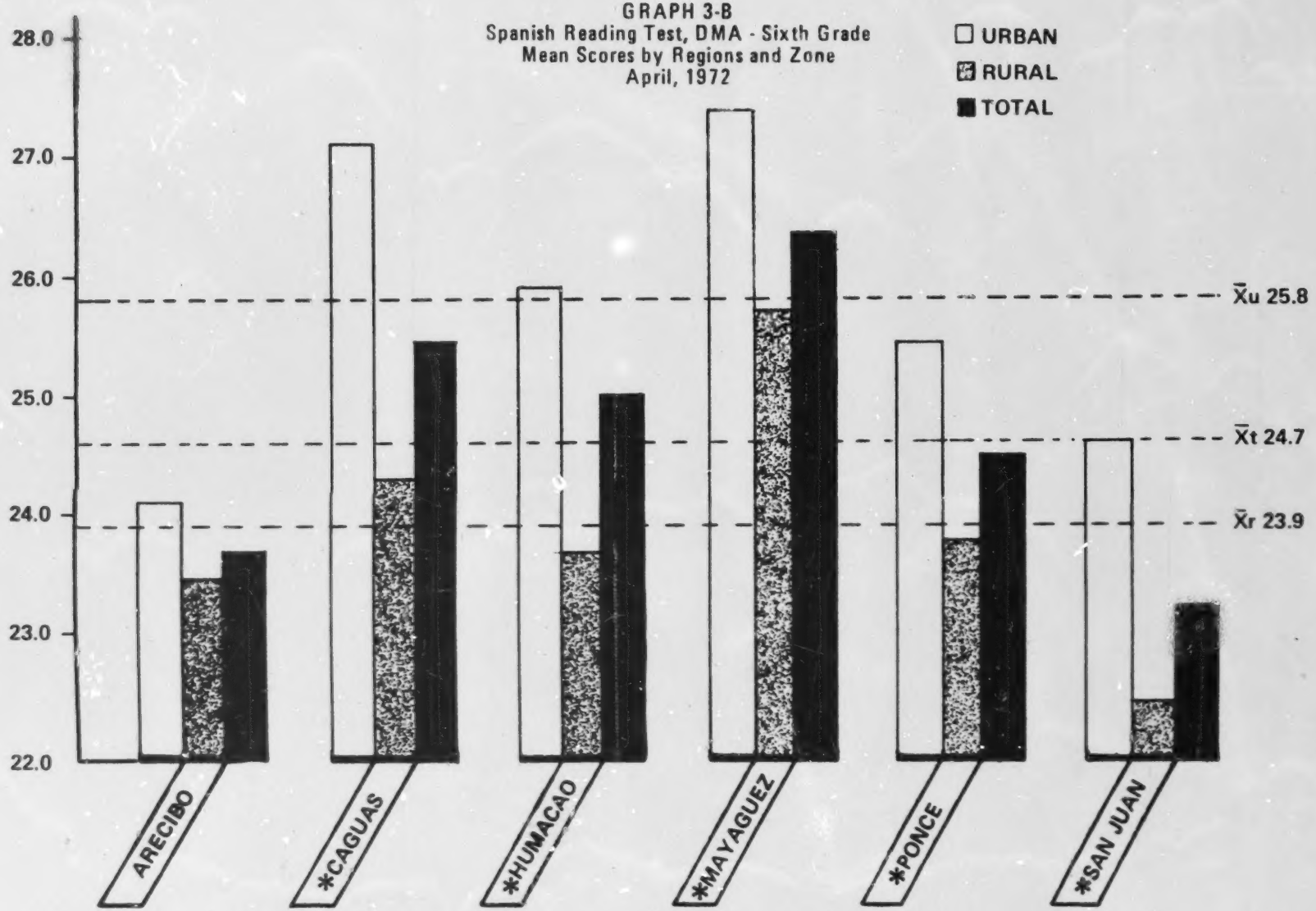
GRAPH 2-8
Spanish Reading Test - Fifth Grade
Mean Scores by Regions and Zone
April, 1972



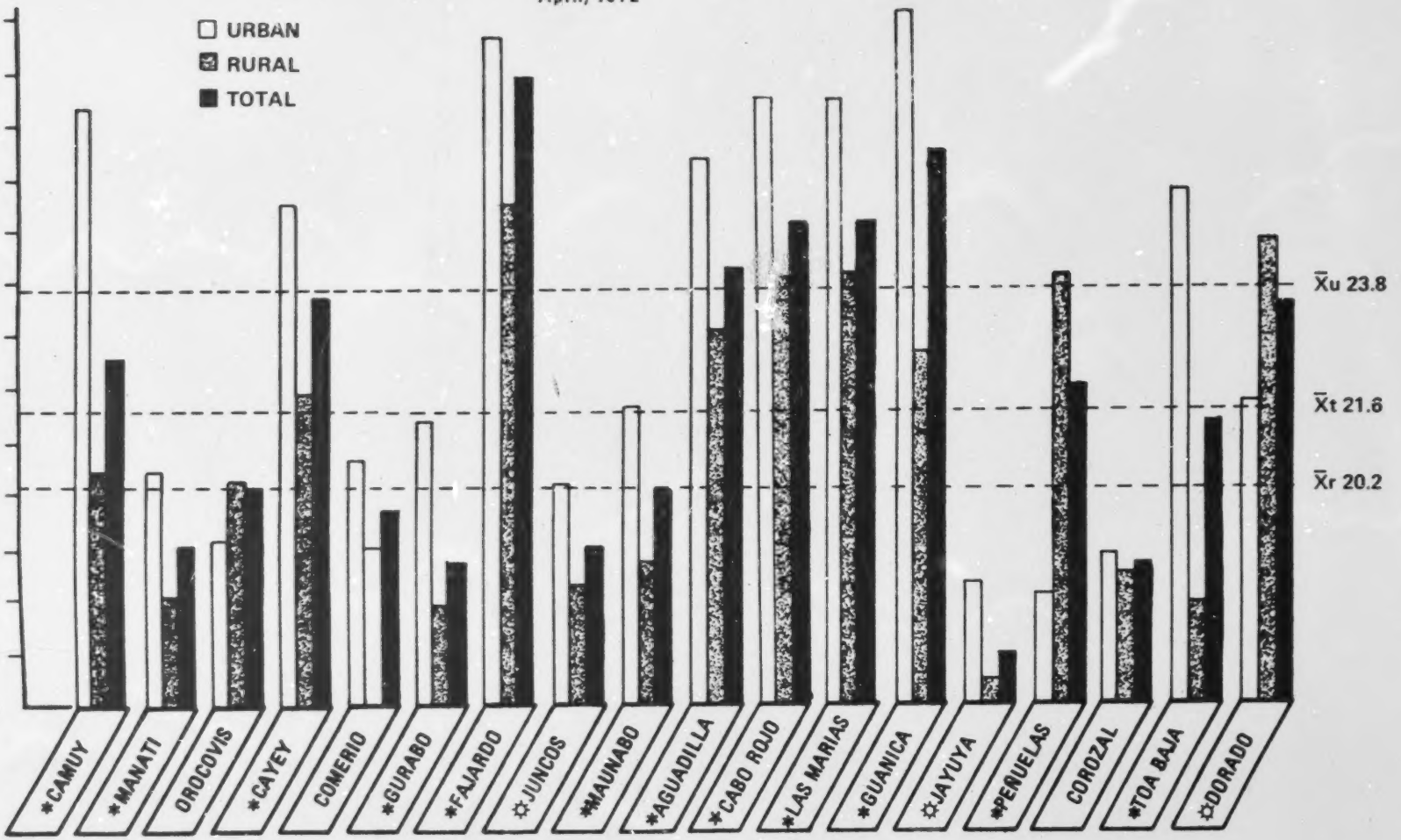
GRAPH 3-A
Spanish Reading Test, DMA - Sixth Grade
Mean Scores by District and Zone
April, 1972



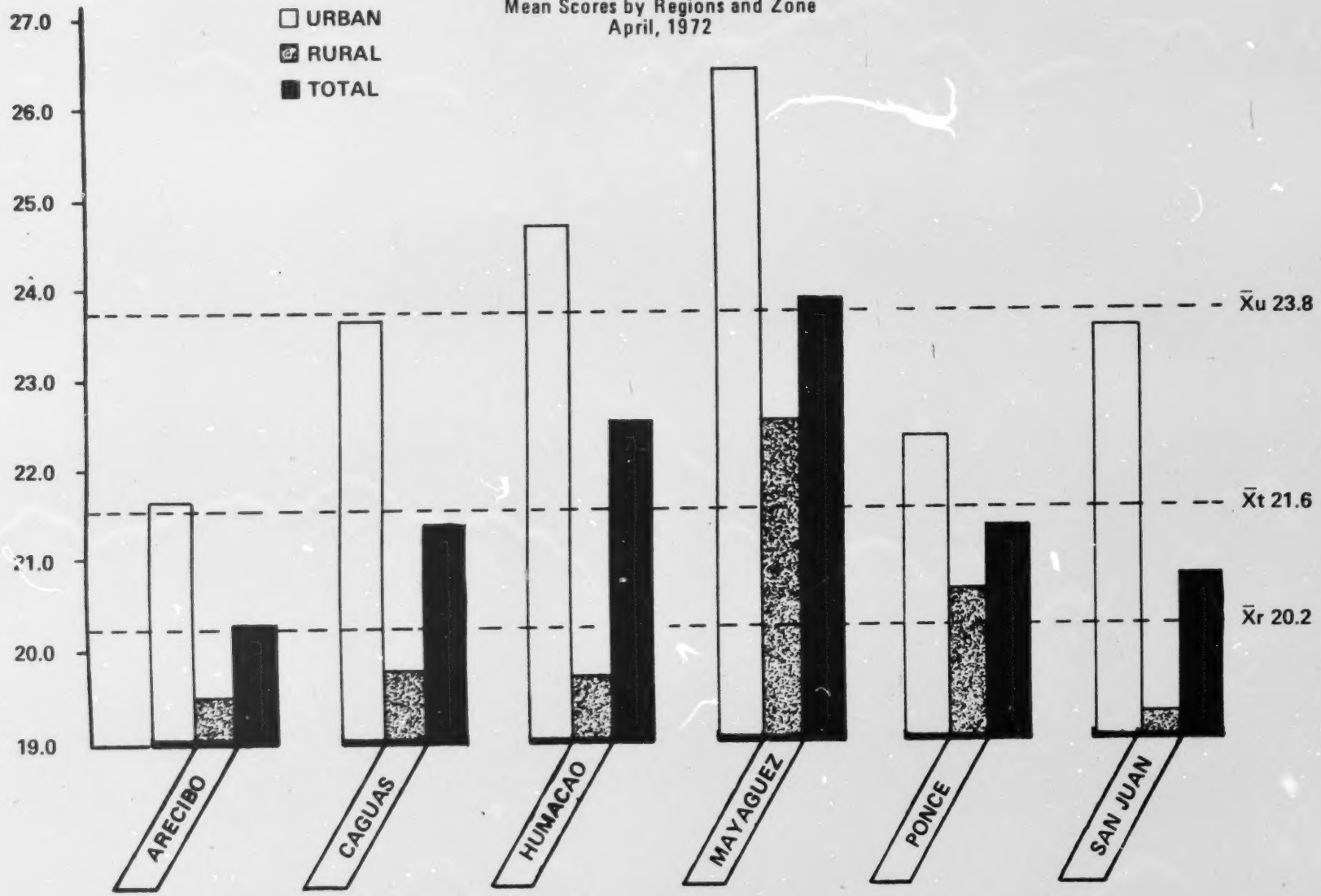
GRAPH 3-B
Spanish Reading Test, DMA - Sixth Grade
Mean Scores by Regions and Zone
April, 1972



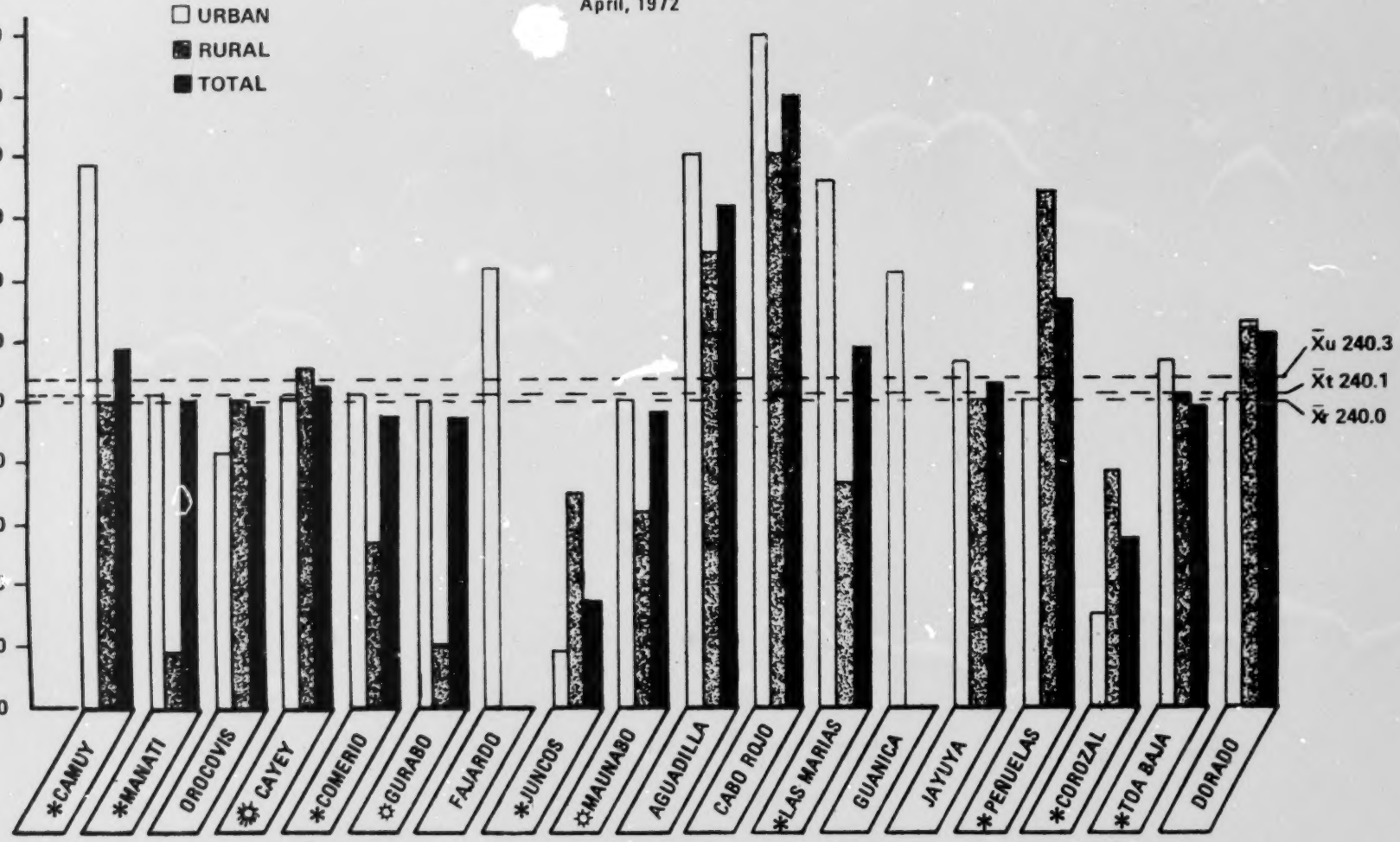
GRAPH 4-A
English Reading Test, DMA - Sixth Grade
Mean Scores by District and Zone
April, 1972



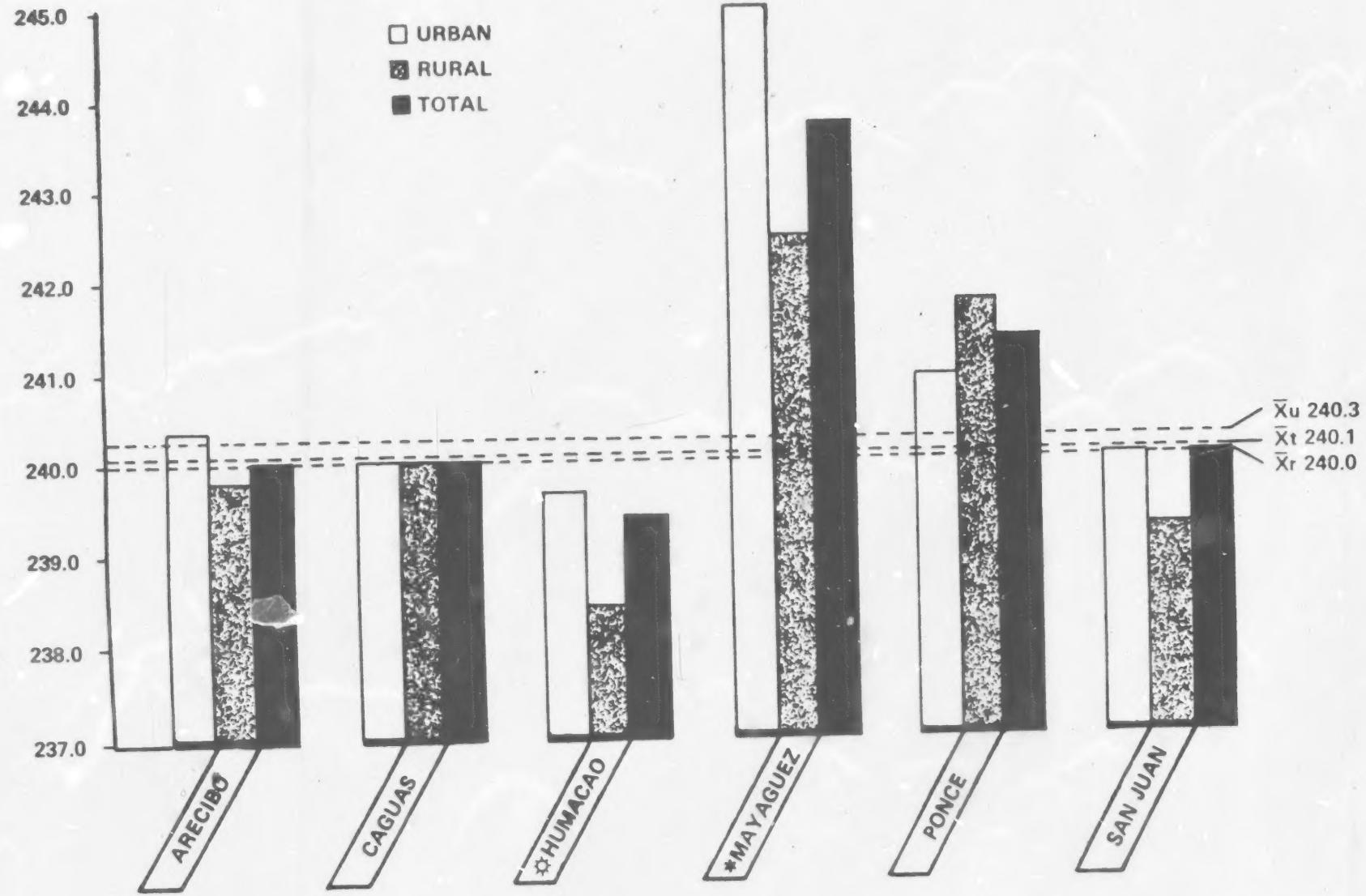
GRAPH 4-B
English Reading Test, DMA - Sixth Grade
Mean Scores by Regions and Zone
April, 1972



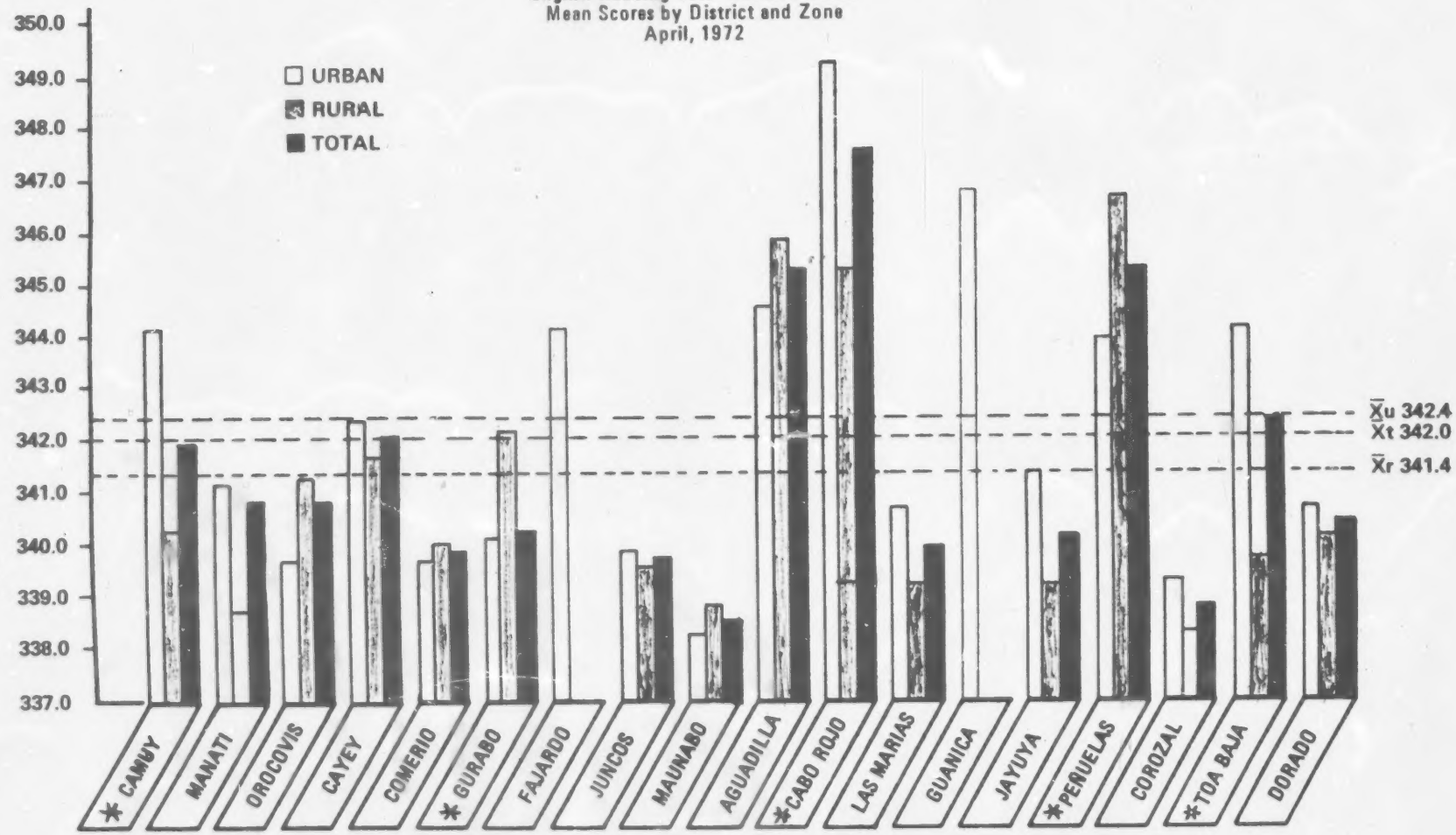
GRAPH 5-A
Spanish Reading Test - Seventh Grade
Mean Scores by District and Zone
April, 1972



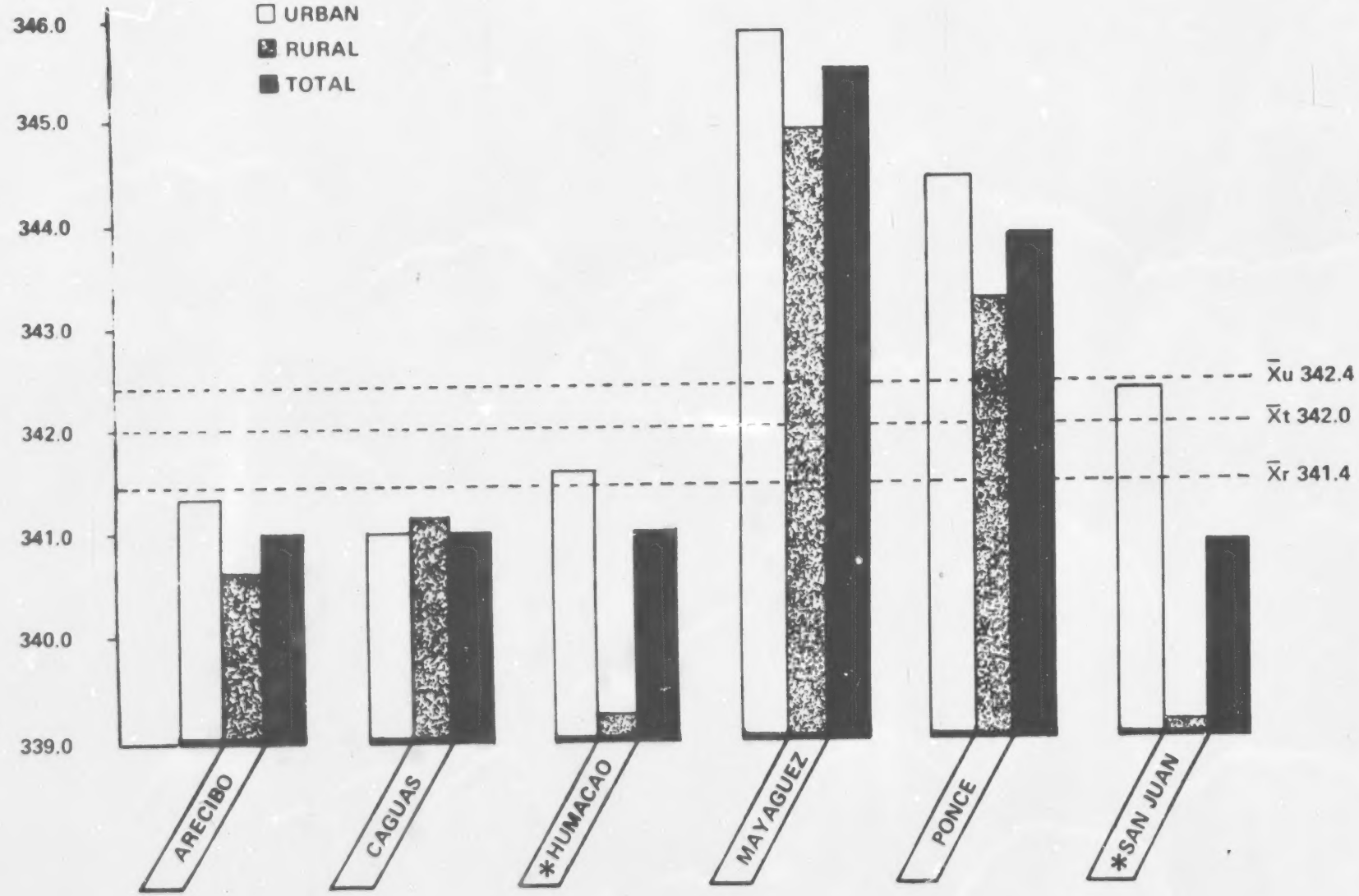
GRAPH 5-B
Spanish Reading Test - Seventh Grade
Mean Scores by Regions and Zone
April, 1972



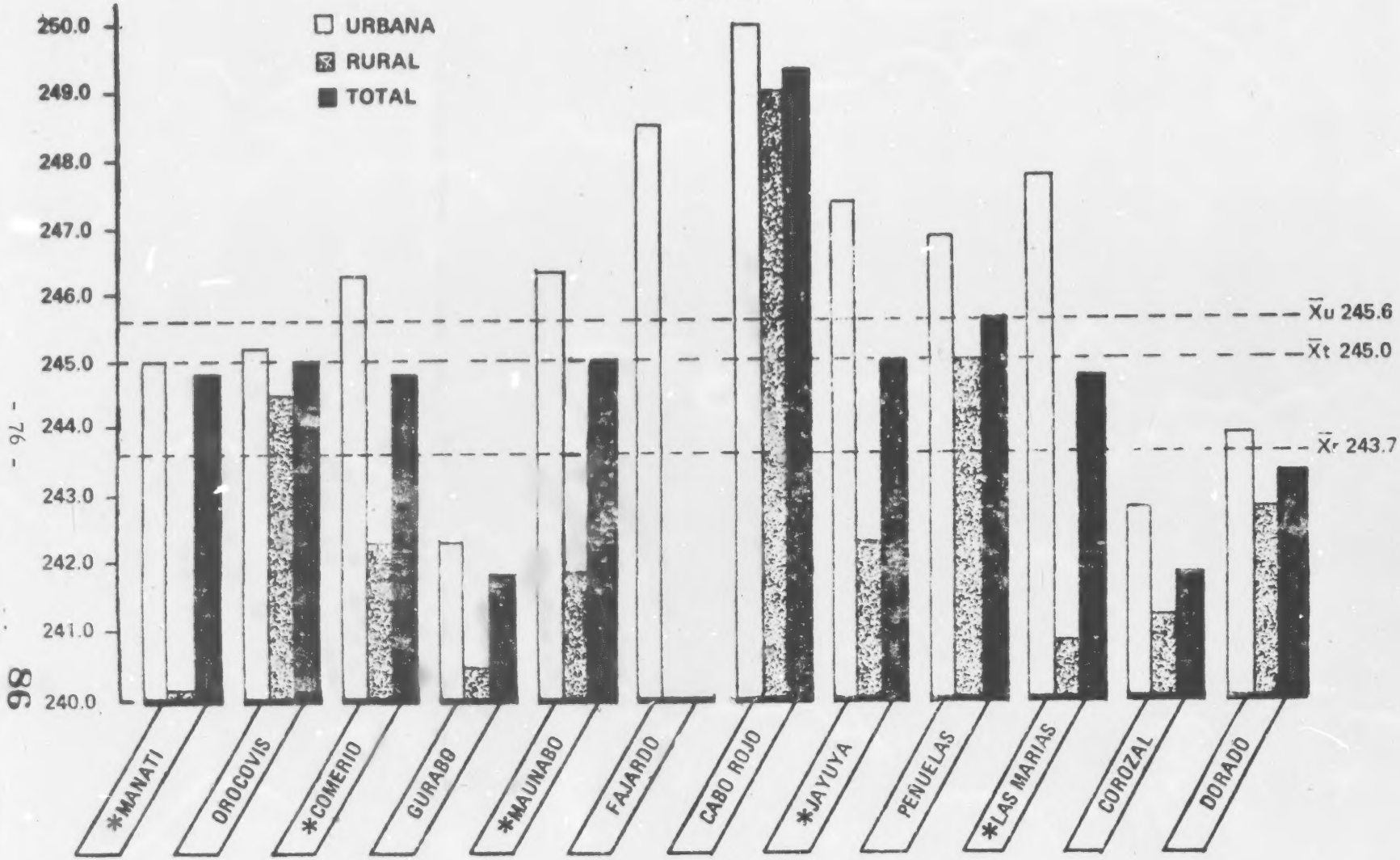
GRAPH 6-A
English Reading Test - Seventh Grade
Mean Scores by District and Zone
April, 1972



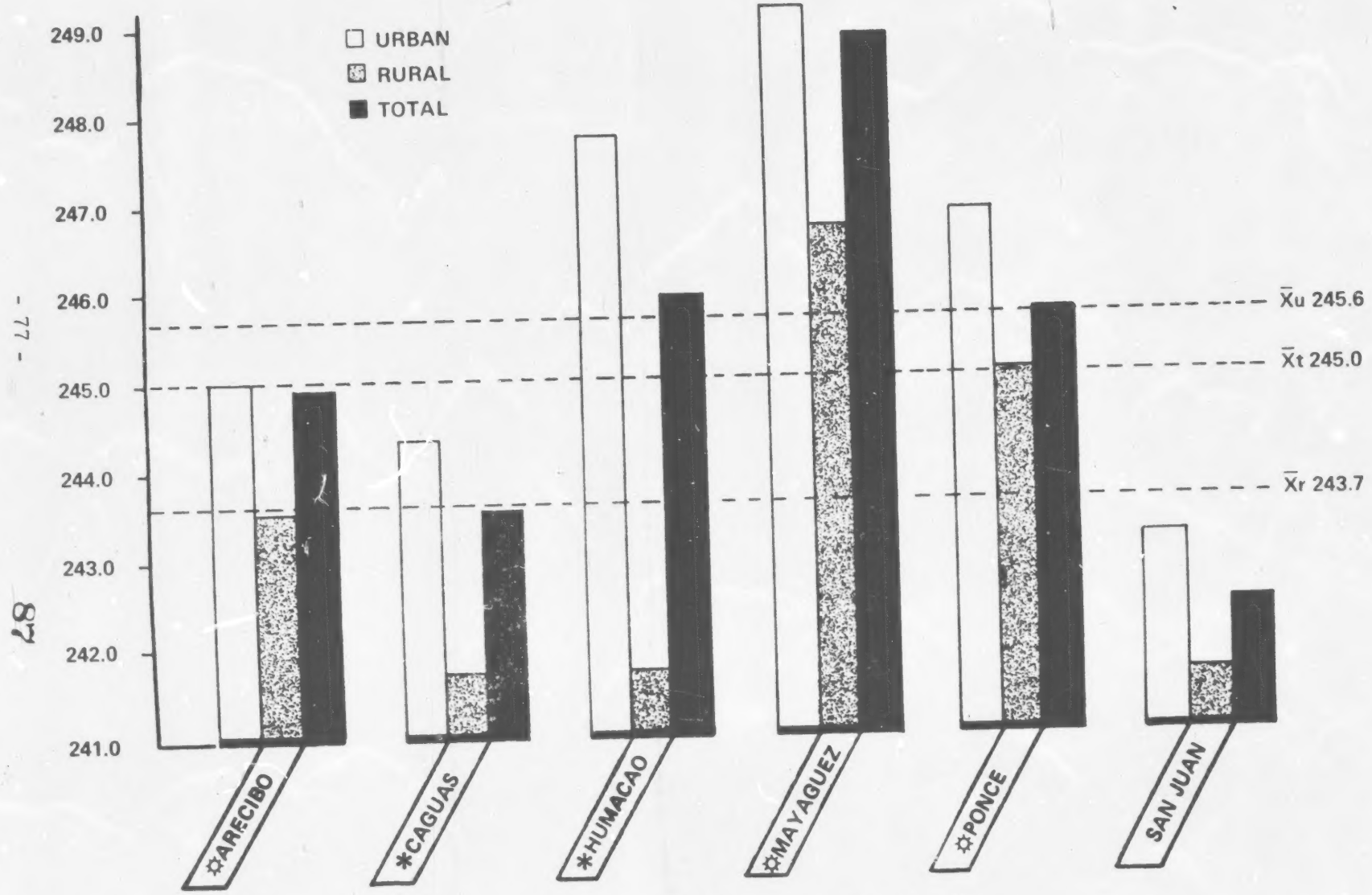
GRAPH 6-B
English Reading Test - Seventh Grade
Mean Scores by Regions and Zone
April, 1972



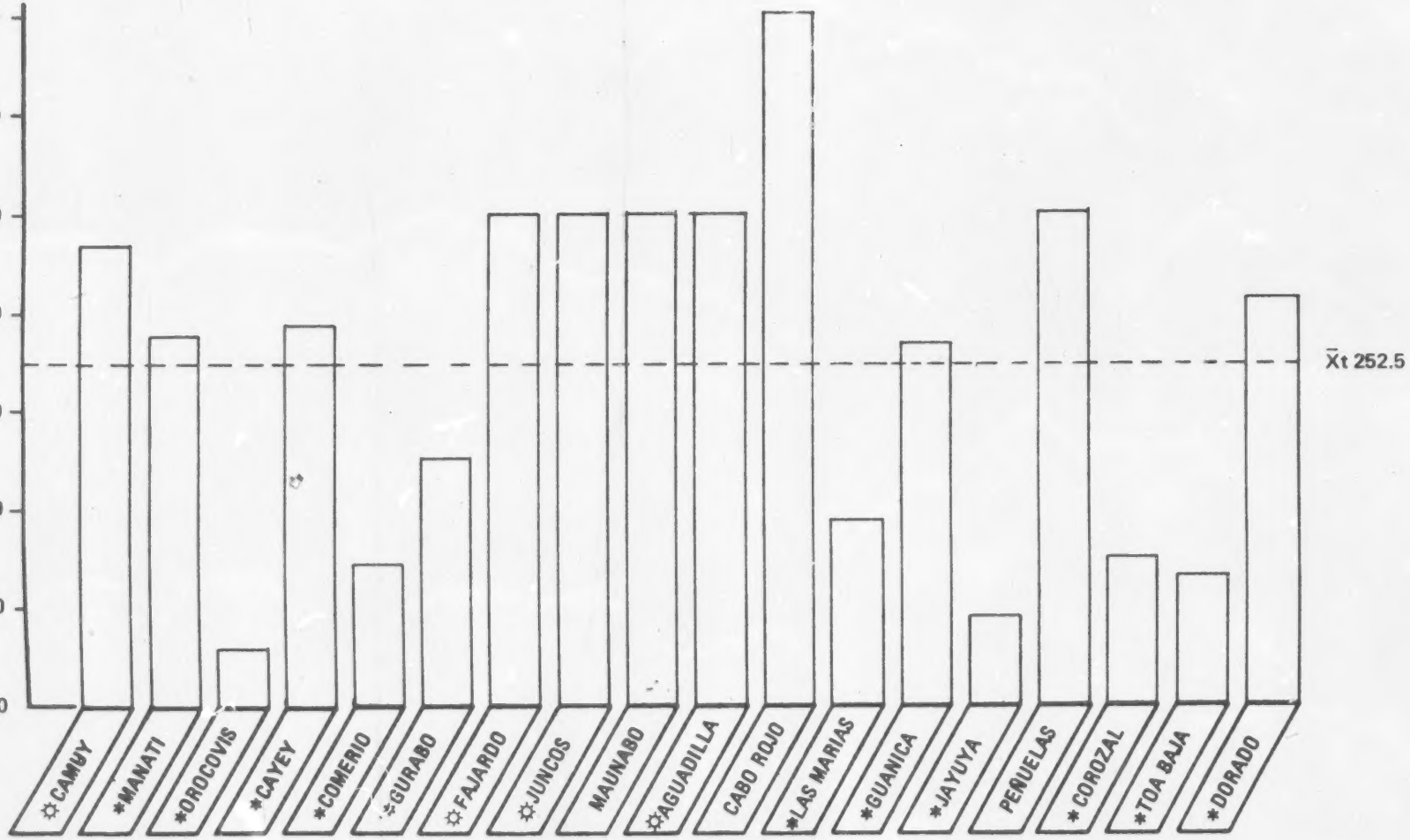
GRAPH 7-A
Spanish Reading Test - Eighth Grade
Mean Scores by District and Zone
April, 1972



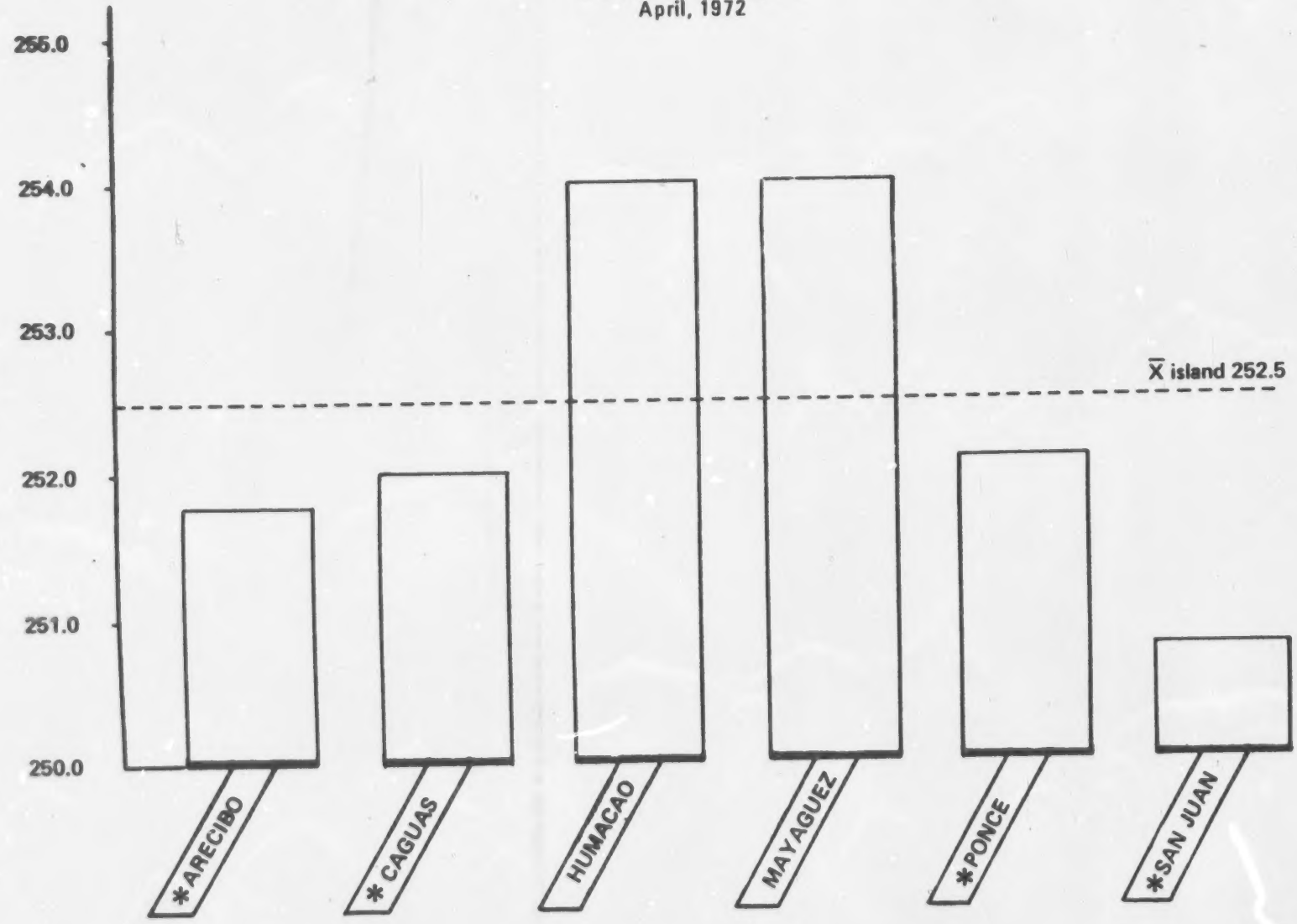
GRAPH 7-B
Spanish Reading Test - Eigth Grade
Mean Scores by Regions and Zone
April, 1972



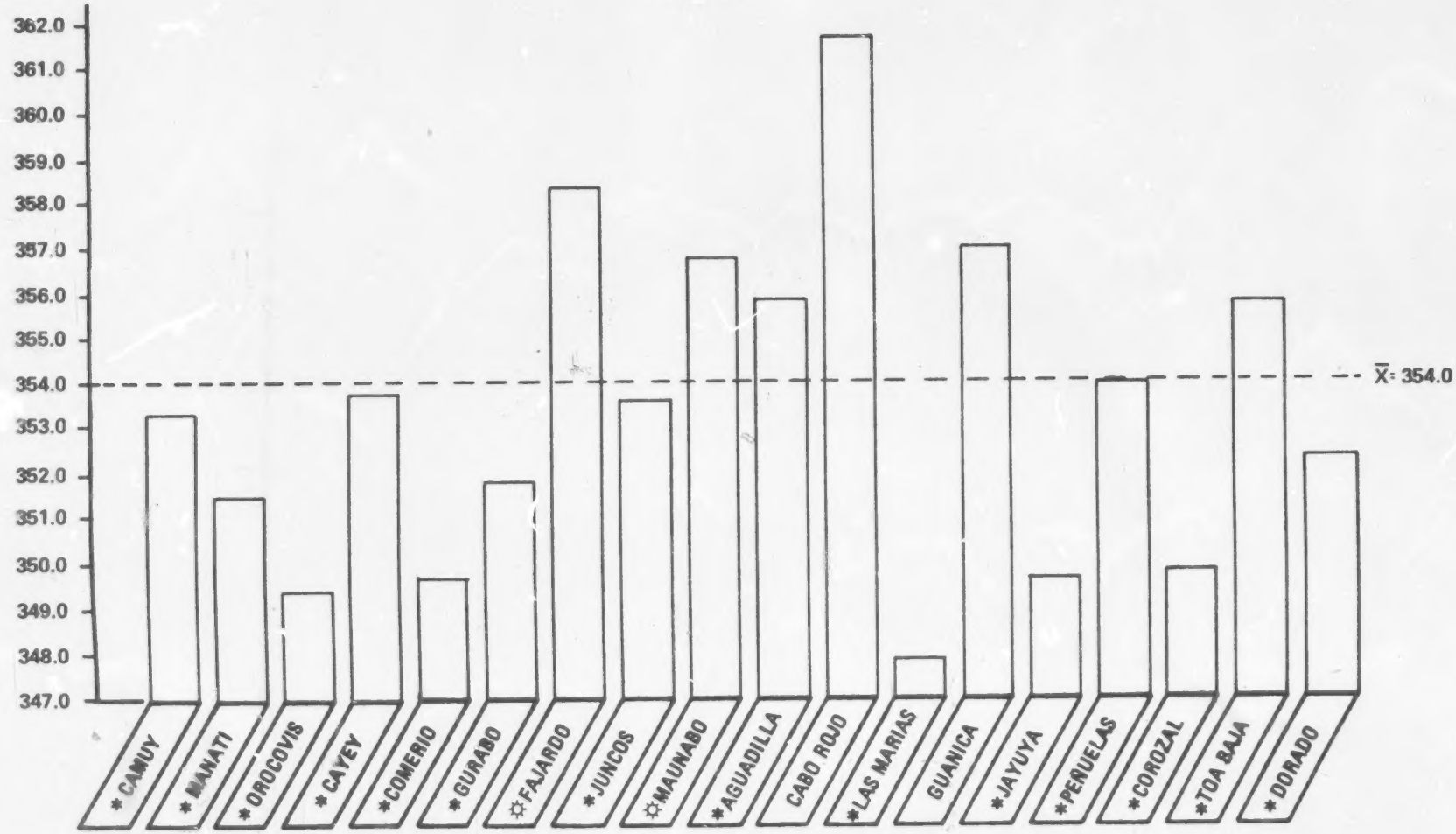
GRAPH 8-A
Spanish Reading Test - Tenth Grade
Mean Scores by District
April, 1972



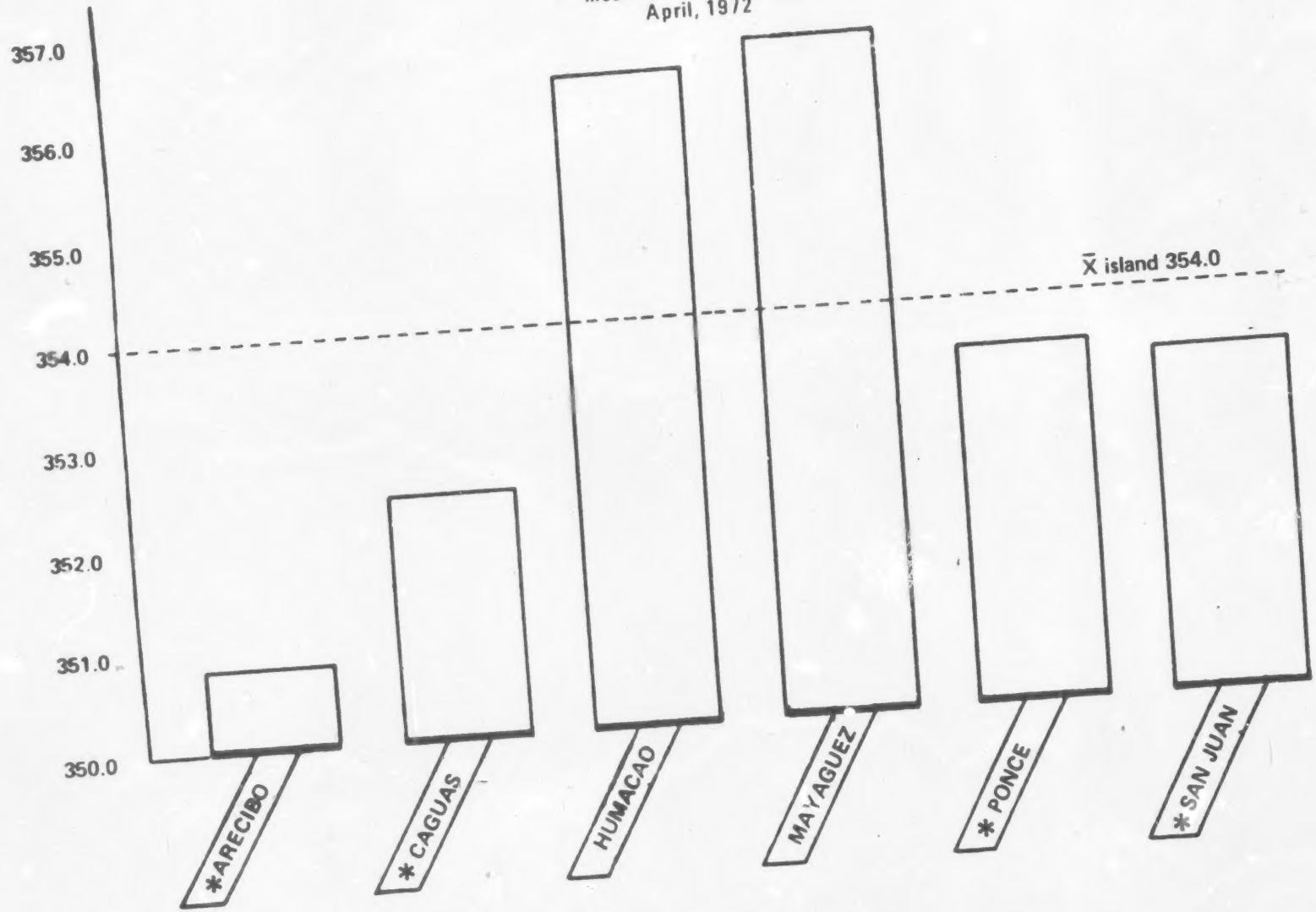
GRAPH 8-B
Spanish Reading Test - Tenth Grade
Mean Scores by Regions
April, 1972



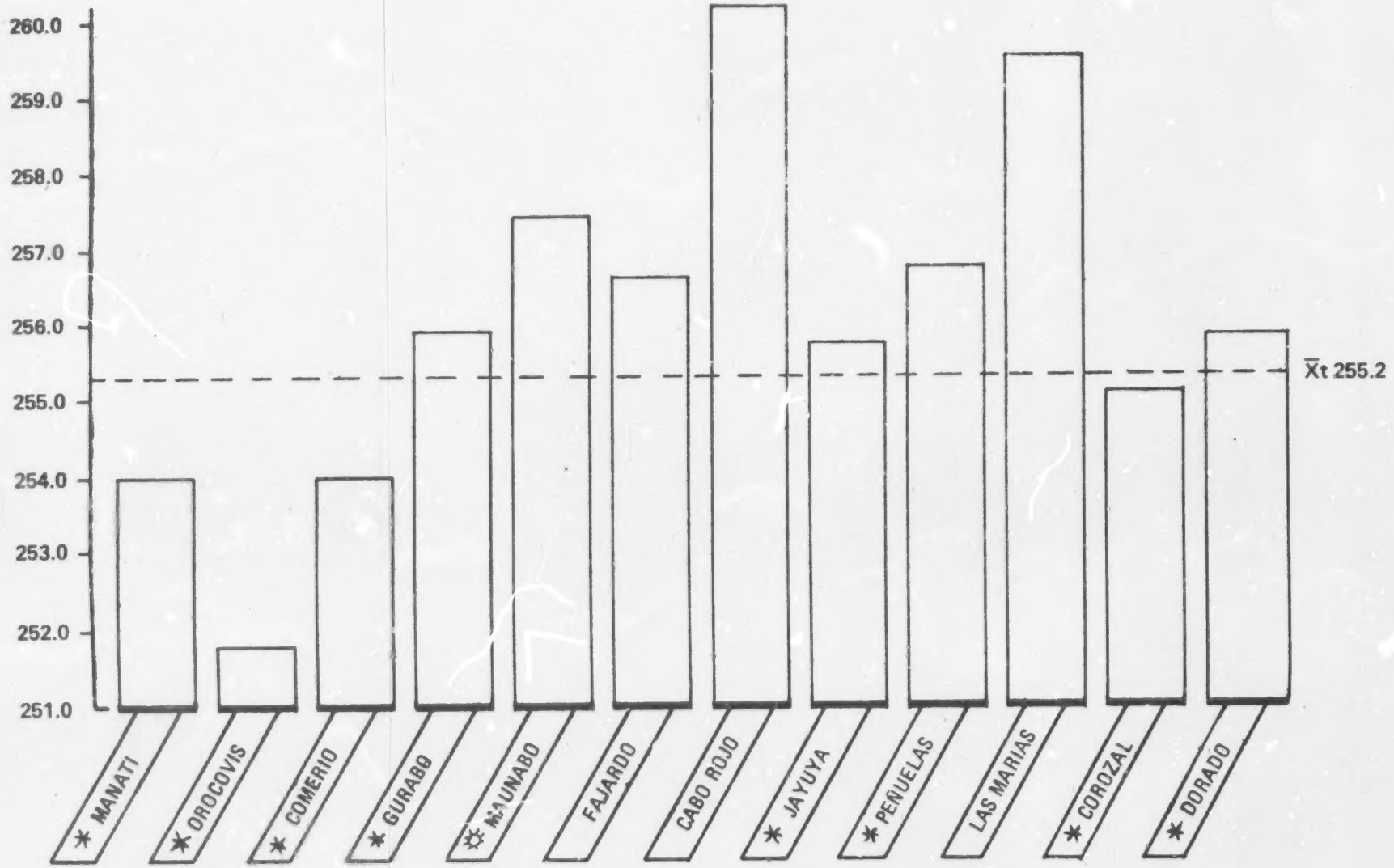
GRAPH 9-A
English Reading Test - Tenth Grade
Mean Scores by District
April, 1972



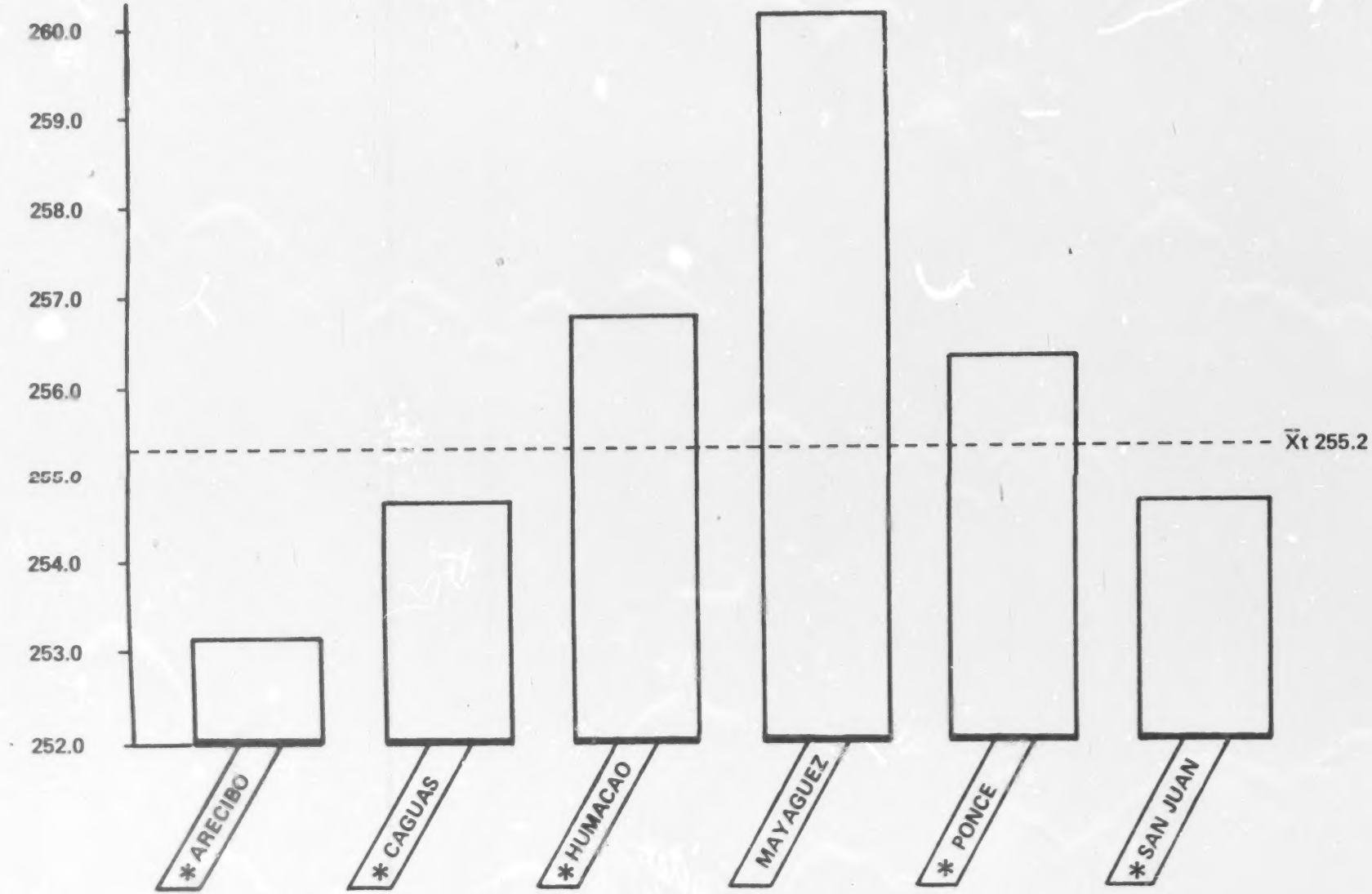
GRAPH 9-B
English Reading Test - Tenth Grade
Mean Scores by Regions
April, 1972



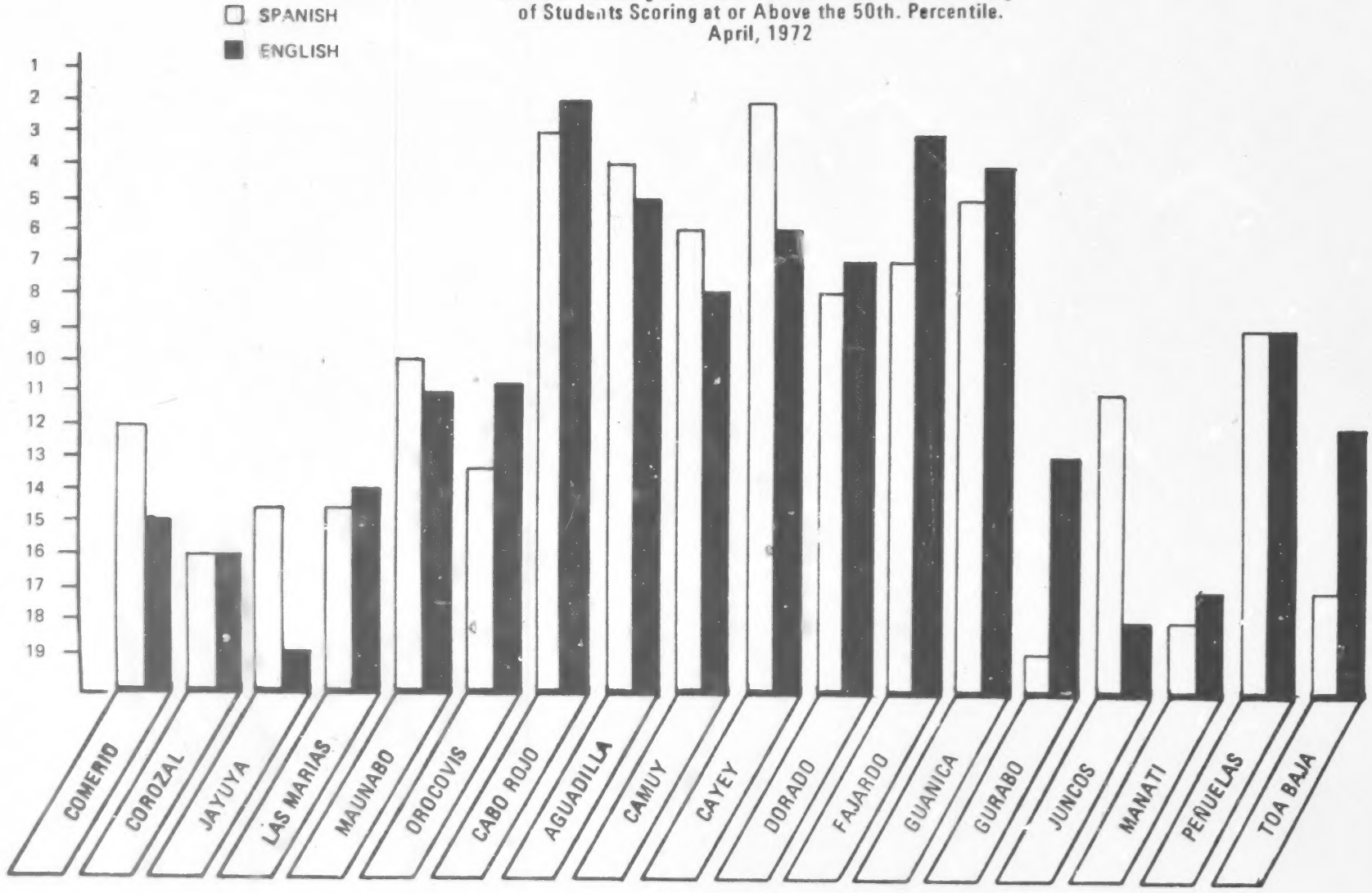
GRAPH 10-A
Spanish Reading Test - Eleventh Grade
Mean Scores by District
April, 1972

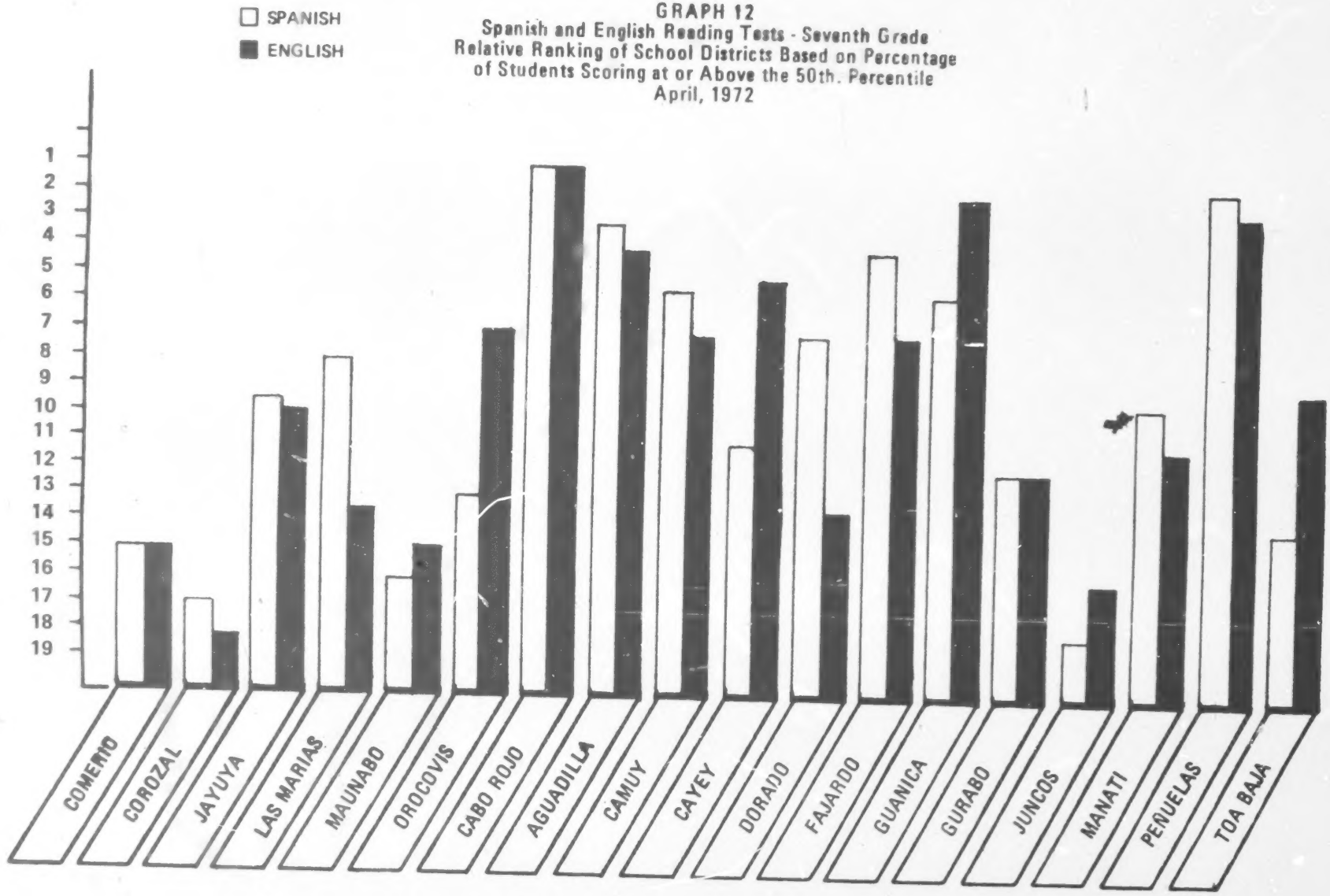


GRAPH 10-B
Spanish Reading Test - Eleventh Grade
Mean Scores by Regions
April, 1972



GRAPH 11
Spanish and English Reading Tests, DMA - Sixth Grade
Relative Ranking of School Districts Based on Percentage of Students Scoring at or Above the 50th. Percentile.
April, 1972




SPANISH
ENGLISH
GRAPH 12
Spanish and English Reading Tests - Seventh Grade
Relative Ranking of School Districts Based on Percentage
of Students Scoring at or Above the 50th. Percentile
April, 1972
1
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18
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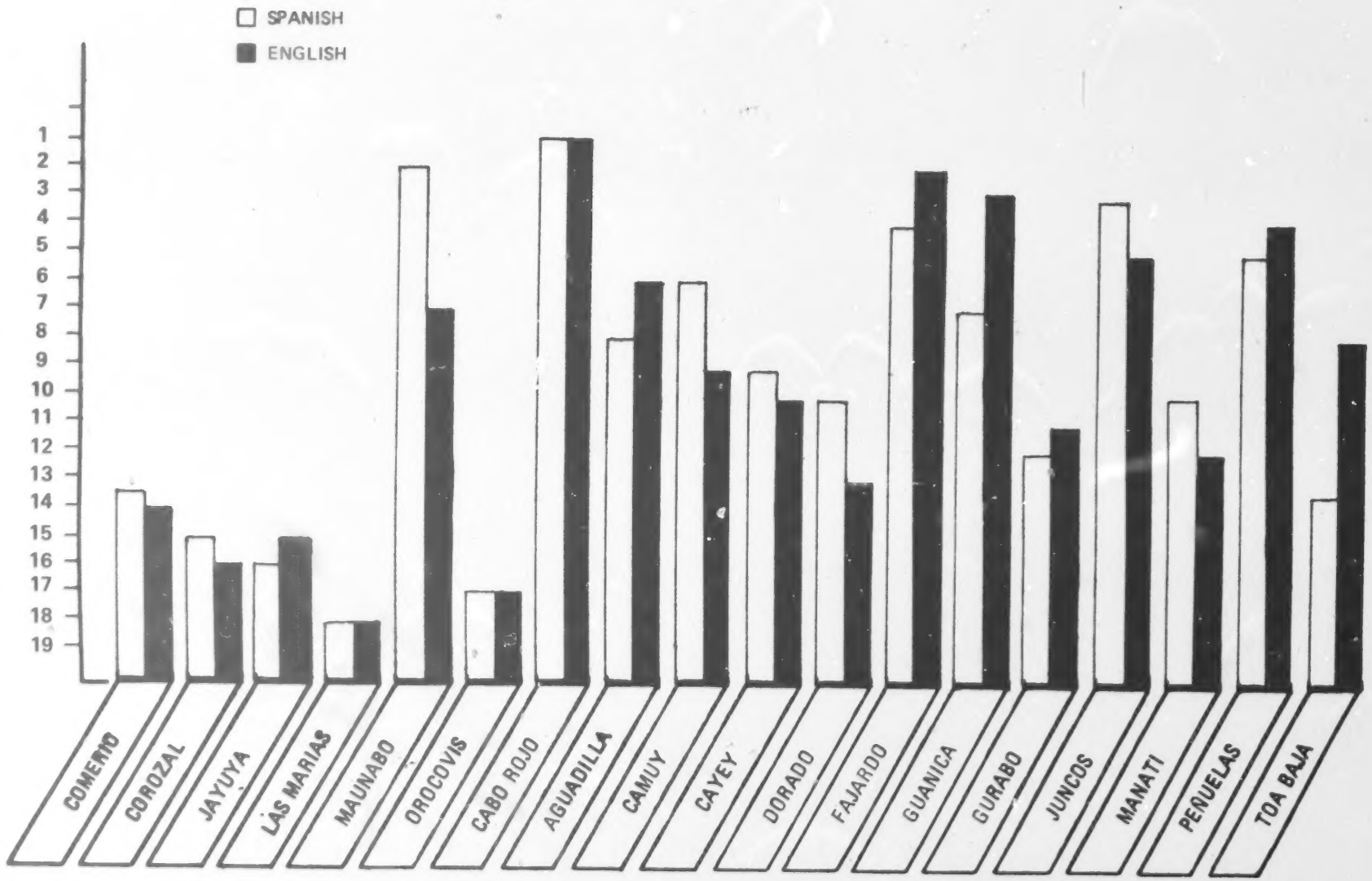
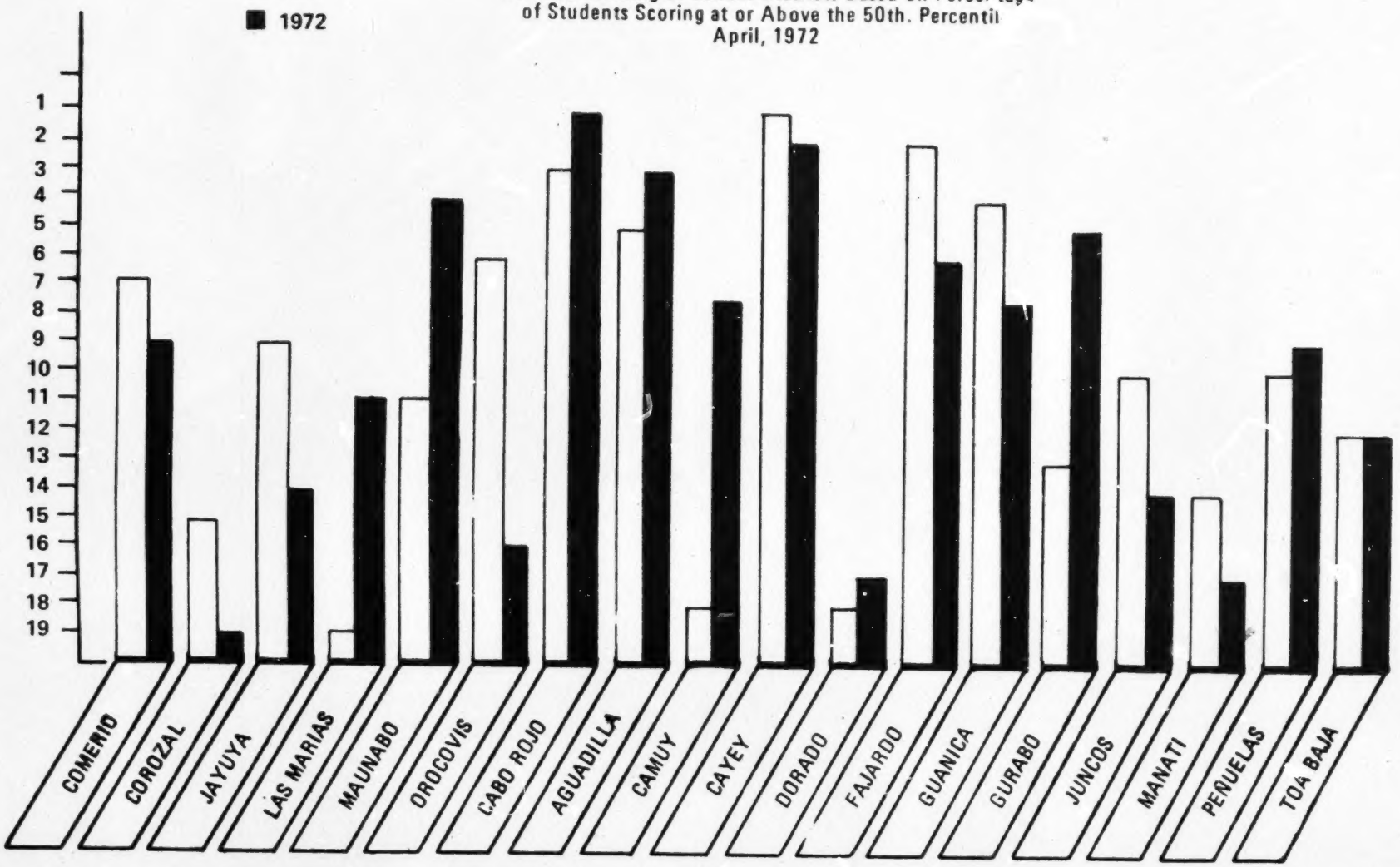
COMERIO
COROZAL
JAYUYA
LAS MARIAS
MAUNABO
OROCOVIS
CABO ROJO
AGUADILLA
CAMUY
CAYEY
DORADO
FAJARDO
GUANICA
GURABO
JUNCOS
MANATI
PEÑUELAS
TOA BAJA

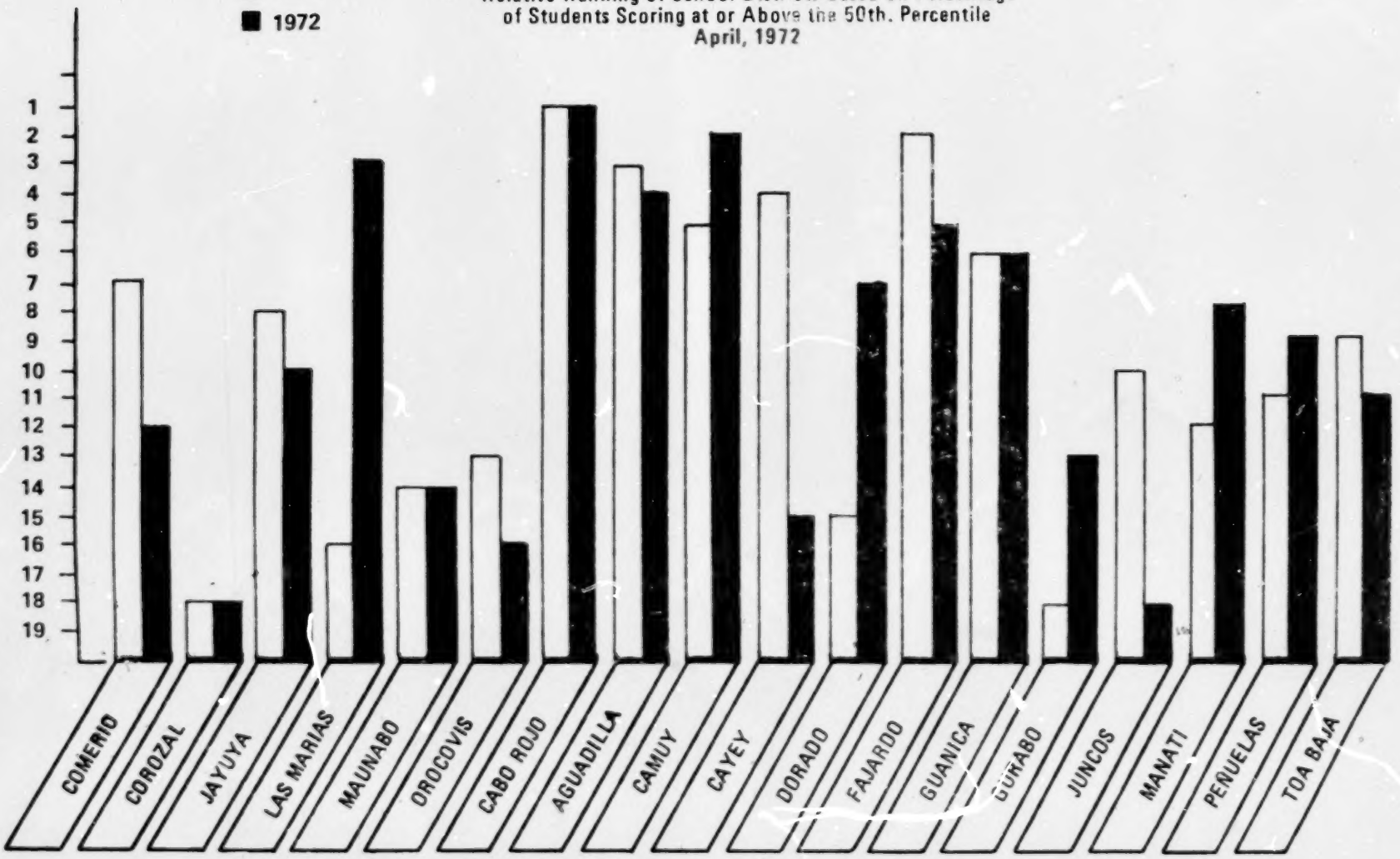
GRAPH 13
Spanish and English Reading Tests - Tenth Grade
Relative Ranking of School Districts Based on Percentage
of Students Scoring at or Above the 50th. Percentile
April, 1972



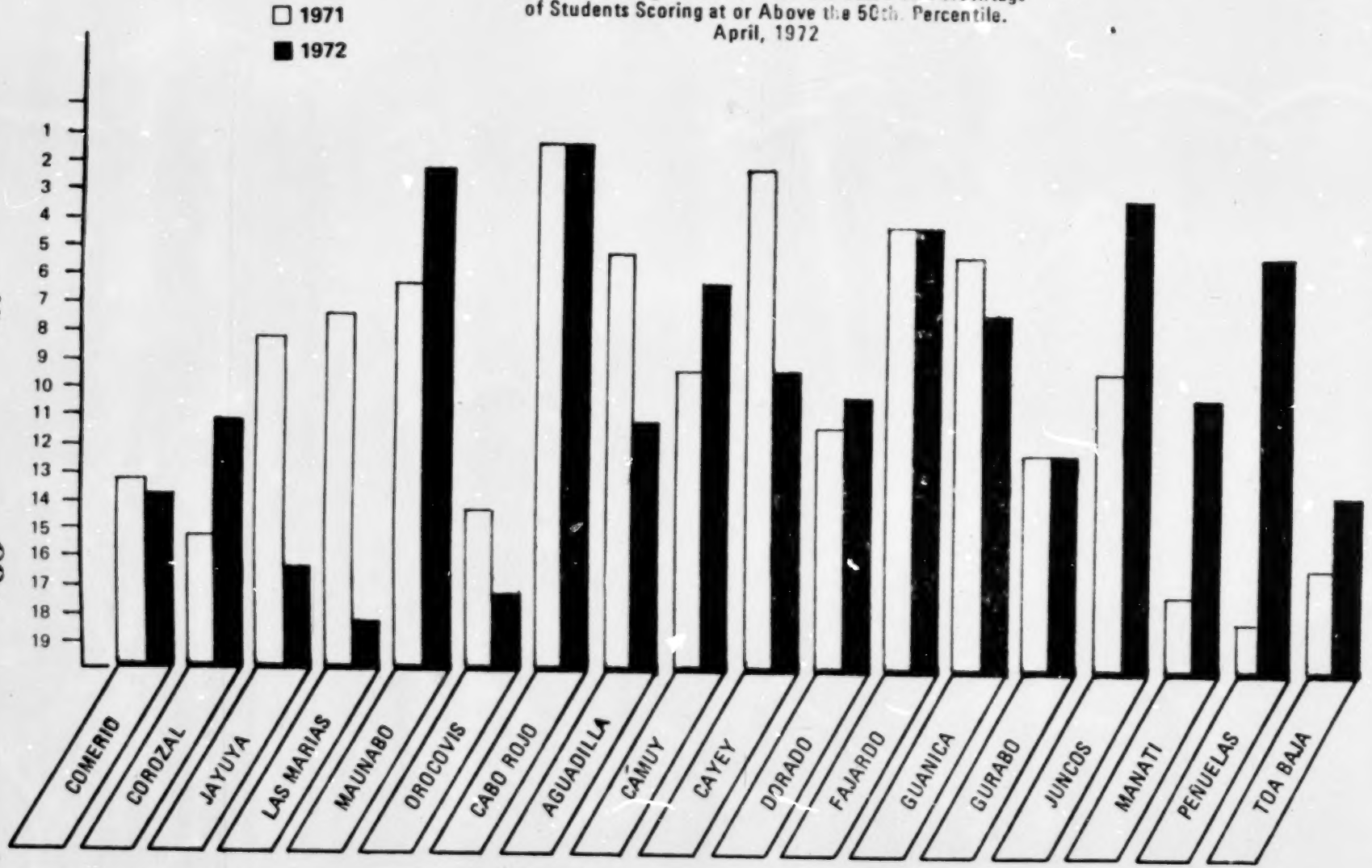
GRAPH 14
Comparison of Spanish Reading Test Scores
in the Years 1971 and 1972 - Fourth Grade
Relative Ranking of School Districts Based on Percentage
of Students Scoring at or Above the 50th. Percentil
April, 1972



GRAPH 15
Comparison of Spanish Reading Test Scores
in the Years 1971 and 1972 - Seventh Grade
Relative Ranking of School Districts Based on Percentage
of Students Scoring at or Above the 50th. Percentile
April, 1972



GRAPH 16
Comparison of Spanish Reading Test Scores
in the Years 1971 and 1972 - Tenth Grade
Relative Ranking of School Districts Based on Percentage
of Students Scoring at or Above the 50th Percentile.
April, 1972



PLANS OF TWELFTH GRADE GRADUATES

PLANS OF TWELFTH GRADE GRADUATES

Based on the premise that the aspiration level of High School graduates is positively affected by increased educational opportunities, data on plans of twelfth grade graduates have been gathered in our school system during three consecutive years as part of the design to assess Title I impact in our educational system.

Out of the total of 26,169 potential twelfth grade graduates in the 83 school districts 18,880 filled in a questionnaire indicating their plans after graduation. (See Appendix 1). A breakdown of the data for the Title I sector, the Non-Title I sector and total Island, is presented on Tables 27, 28, 29, 30, 31 and 32.

The great majority (75.2 percent of the 18,880) expressed they had plans to continue studying or to work and continue studying.

While 19.1 percent indicated they had intentions of working, 2.1 percent indicated that they did not have plans either to work or study.

Only 415 or 2.2 percent had plans to enter the Armed Forces and 259 or 1.4 percent did not answer the item.

Comparing the Title I districts with the rest of the school districts we find that 50.4 percent of students from the Title I districts and 49.3 of the students from the other districts indicated they had plans to continue studying.

Table 27

PLANS OF POTENTIAL TWELFTH GRADE GRADUATES BY SEX: 35 TITLE I DISTRICTS - VERSUS - 46 NON TITLE I DISTRICTS - YEAR 1971-72

DISTRICTS	SEX	PLANS						
		Study Only	Study and Work	Work Only	Neither Work or Study	Entered Armed Forces	Blank	Totals
35 Title I	Male	1,206	622	779	75	97	30	2,809
	%	42.9	22.1	27.7	2.7	3.5	1.1	100
	Female	2,067	689	794	102	6	29	3,687
	%	56.1	18.7	21.5	2.8	.2	.8	100.0
	M & F	3,273	1,311	1,573	177	103	59	6,496
	%	50.4	20.2	24.2	2.7	1.6	.9	100.0
Other 46 School Districts	Male	2,258	1,689	975	77	296	93	5,388
	%	41.9	31.3	18.1	1.4	5.5	1.7	100.0
	Female	3,848	1,820	1,054	151	16	107	6,996
	%	55.0	26.0	15.1	2.2	.2	1.5	100.0
	M & F	6,106	3,509	2,029	228	312	200	12,384
	%	49.3	28.3	16.4	1.8	2.5	1.6	100.0
Whole Island	M & F	9,379	4,820	3,602	405	415	259	18,880
	%	49.7	25.5	19.1	2.1	2.2	1.4	100.0

Findings: 1) Girls outnumbered boys in plans to continue studying.
2) Boys outnumbered girls in plans to work only.

TABLE 28

ALTERNATIVES IN ITEMS 2, 3 AND 4 OF THE QUESTIONNAIRE CHOSEN BY STUDENTS WHO INDICATED THEY HAD PLANS TO CONTINUE STUDYING

I- Item 2: Economic Needs

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- Do not need economic help	206	6.3	841	13.8	1,047	11.2
B- Need full scholarship	2,659	81.2	4,075	66.8	6,734	71.8
C- Need transportation	132	4.0	303	5.0	435	4.6
D- Need for boarding expenses	82	2.5	84	1.4	166	1.8
E- Need for books and materials	183	5.6	759	12.4	942	10.0
In blank	11	.3	44	.7	55	.6
Total	3,273	100.0	6,106	100.0	9,379	100.0

II- Item 3: Type of Institution

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- In University or College	2,741	83.7	4,629	75.8	7,370	78.6
B- In Commercial School	66	2.0	201	3.3	267	2.8
C- In Vocational School	295	9.0	743	12.2	1,038	11.1
D- In Technological School	104	3.2	326	5.3	430	4.6
E- Different plans	58	1.8	183	3.0	241	2.6
In blank	9	0.3	24	0.4	33	0.3
Total	3,273	100.0	6,106	100.0	9,379	100.0

Findings (Table 28)

1) A higher percentage of students from the non-Title I districts who indicated plans to continue studying indicated they were in no need of economic help, however in both groups the majority expressed they are in need of a full scholarship.

2) A higher percentage from the Title I districts have plans to continue studying in a University or College.

3) Approximately 79% of all twelfth grade graduates expressed their preference for a university or college while 15.7% of all students in the Island indicated they had plans to continue studying in either vocational or technological schools.

II- Item 4: Length of Expected Academic Training

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- More than four years	74	5.6	381	10.9	455	9.4
B- Four years	267	20.4	656	18.7	923	19.1
C- Two or three years	664	50.6	1,563	44.5	2,227	46.2
D- A year	264	20.1	734	20.9	998	20.7
E- Less than a year	37	2.8	145	4.1	182	3.8
In blank	5	0.4	30	0.9	35	0.7
Total	1,311	100.0	3,509	100.0	4,820	100.0

III- Item 5: Study Time Plans of Those Who Expect to Study and Work

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- Study during day and work night	115	8.8	298	8.5	413	8.6
B- Study during day and work free days	476	36.3	792	22.6	1,268	26.3
C- Study half a day and work the other half	441	33.6	1,401	39.9	1,842	38.2
D- Study night courses and work during day	200	15.3	845	24.1	1,045	21.7
E- Study by correspondence and work during day	18	1.4	31	0.9	49	1.0
In blank	61	4.7	142	4.0	203	4.2
Total	1,311	100.0	3,509	100.0	4,820	100.0

III- Item 4: Length of Expected Academic Training

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- Study more than four years	719	22.0	1,693	27.7	2,412	25.7
B- Study four years	1,392	42.5	2,076	34.0	3,468	37.0
C- Study two or three years	966	29.5	1,737	28.4	2,703	28.8
D- Study a year	165	5.0	481	7.9	646	6.9
E- Study less than a year	15	0.5	70	1.1	85	0.9
In blank	16	0.5	49	0.8	65	0.7
Total	3,273	100.0	6,106	100.0	9,379	100.0

TABLE 29

ALTERNATIVES IN ITEMS 3, 4 AND 5 CHOSEN BY THOSE STUDENTS WHO INDICATED THEY HAD PLANS TO CONTINUE STUDYING AND TO WORK

I- Item 3: Type of Institution

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total Island	
	N	%	N	%	N	%
A- In a University or College	599	45.7	1,424	40.6	2,023	42.0
B- In a Commercial School	103	7.9	397	11.3	500	10.4
C- In a Vocational School	380	29.0	928	26.4	1,308	27.1
D- In a Technological Institute	89	6.8	383	10.9	472	9.8
E- Different plans from the above	136	10.4	349	9.9	485	10.1
In blank	4	0.3	28	0.8	32	0.7
Total	1,311	100.0	3,509	100.0	4,820	100.0

Findings (Table 29)

1) 36.9% of the students who indicated plans to study and work indicated they were planning to study either in a vocational school or technological institute. Almost [illegible] them indicated they would study two to three years.

Table 30

ALTERNATIVES IN ITEM 6 CHOSEN BY THOSE STUDENTS WHO INDICATED THEY HAD PLANS FOR WORKING ONLY OR THAT THEY DID NOT HAVE PLANS FOR WORKING OR STUDYING

I- Item 6: Reasons Reported By Those Planning Not To Continue Studying

ALTERNATIVES	35 Title I Districts		Other 46 School Districts		Total	Island
	N	%	N	%	N	%
A- No interest in studying	119	6.8	211	9.3	330	8.2
B- Need of scholarship	270	15.4	308	13.6	578	14.4
C- Family needs economic help	919	52.5	1,177	52.1	2,096	52.3
D- Low grades	378	21.6	448	19.8	826	20.6
E- Poor health	20	1.1	34	1.5	54	1.3
In Blank	44	2.5	79	3.5	123	3.1
Total	1,750	100.0	2,257	100.0	4,007	100.0

Table 31

POTENTIAL TWELFTH GRADE GRADUATES WHO INDICATED THEIR PLANS TO ENTER THE ARMED FORCES - 1971- 72 (ITEM I,E)

School Districts	N	%
35 Title I	103	24.8
Other 46	312	75.2
Total Island	415	100.00

Table 32

PLANS OF POTENTIAL TWELFTH GRADE GRADUATES, 35 TITLE I DISTRICTS VS 46 NON TITLE I DISTRICTS
YEARS 1970-1971 and 1971-1972

DISTRICTS	N / %	PLANS													
		Study Only		Study and Work		Work Only		Neither Work or Study		Entered Armed Forces		Blank		Totals	
		1971	1972	1971	1972	1971	1972	1971	1972	1971	1972	1971	1972	1971	1972
35 Title I Districts	N	2,576	3,273	1,212	1,311	1,543	1,573	193	177	81	103	68	59	5,678	6,496
	%	45	50.4	22	20.2	28	24.2	3	2.7	1	1.6	1	.9	100	100
Other 46 School Districts	N	6,481	6,106	4,284	3,509	2,775	2,029	252	228	221	312	274	200	14,287	12,384
	%	45	49.3	30	28.3	19	16.4	2	1.8	2	2.5	2	1.6	100	100
Whole Island	N	9,057	9,379	5,496	4,820	4,323	3,602	445	405	302	415	342	259	19,965	18,880
	%	45.3	49.7	27.5	25.5	21.7	19.1	2.2	2.1	1.5	2.2	1.8	1.4	100	100

Findings: 1. There was an increase of 5.4% of students from the Title I sector indicating their desire to continue studying.. (45% in 1971 vs 50.4% in 1972). In the remaining non-Title I district a 4.3% increase was observed.

PROJECT PROFILES

Several activities were designed to provide compensatory education experiences to Title I children who were receiving less than six hours of instruction daily and in some instances no schooling at all due to some or all of the following reasons:

In some areas children were getting 3 or 4 hours of instruction daily due to both lack of school rooms and teacher shortage. In others, children were on a interlocking organization of 5 hours daily due to lack of space. Certain areas had facilities for a limited number of grades only, and beyond a certain grade students had to attend schools located in distant neighborhoods and they needed transportation services. Many school attendance areas lacked the facilities to admit to the first grade all of their school age children. This situation left out of school many school age children who had to wait several years to start their schooling. Furthermore, students also lacked enough schooling time due to cases of prolongued teachers' absences without the provision of substitute teachers.

The activities hereinafter described were designed to provide adequate schooling facilities, enough teachers and substitute teachers and supportive services to offer the participating needy youngster a school day of six hours daily of instruction.

PROJECT PROFILE

I.	Project Area	: 10
II.	Project Title	: Lengthening the School Day
III.	Grade Level	: Grades from 1 to 12
IV.	Cost	: $8,855,948.00
V.	Year	: 1971-72
VI.	Duration	: The project is a continuation of a project operating in Puerto Rico since 1966

Objectives:

1. To eliminate the double enrollment and interlocking type of school organization.
2. To increase the number of classrooms and other school facilities.
3. To increase school retention.

Activities and services provided:

A. Construction program:

Up to fiscal year 1972 a total of 2,391 classrooms and 1,064 other school facilities had been constructed with Title I funds in Puerto Rico. Specifically, for school year 1971-72 a total of 175 classrooms and 66 other school facilities were under construction. The 66 school facilities included: 6 libraries, 17 lunchrooms, 9 offices, 22 sanitary units, 6 fences and 6 athletic courts. The construction program for the years 1970-71 and 1971-72 included 56 school districts, 32 of which are Title I. Of a total of 415 classrooms constructed during these two years, 79 were used to eliminate double enrollment, 184 to attend increase in enrollment, 100 to substitute buildings in poor conditions, 52 to eliminate interlocking organizations. In addition to these, 144 other school facilities were also completed. A total of 17,391 students had benefited during the two years.

B. Appointment of additional teachers:

A total of 754 teachers appointed last year to reduce or eliminate the double enrollment and interlocking type of organization in Title I districts continued this year. Thre hundred three (303) positions were added for the same purpose for a total of 1057. Approximately 90,430 students or 40% of the total enrollment of the 35 Title I districts were affected in one way or another as a result of the appointment of the 1,057 teachers. Sixty eight per cent (68%) of the teaching positions appointed to lengthen the school day served that purpose, 14 per cent were used to attend increase in enrollment, 12 per cent to reduce the number of students per group and 6 per cent were used for other purposes.

C. Transportation Program:

Of a total enrollment of 353,820 students in 48 school districts (including the 35 Title I) 18,602 or 5 per cent were offered transportation services. Of this total, 14,997 belonged to Title I districts. That is 6 per cent of the total enrollment in these districts.

D. Appointment of substitute teachers:

Fifty two teachers were appointed this year in the 35 Title I districts to substitute teachers who were in leave of absence for maternity and or prolonged sickness. Approximately 4,619 students benefited from the program in both levels, elementary and secondary; 3,078 rural zone and 1,541 urban zone.

Other activities aimed at the improvement of the academic achievement and the cultural enrichment of Title I target youngsters from prekinder through grade 12 including the handicapped.

Curriculum development and teacher training activities were undertaken to offer compensatory education experiences with emphasis on the reading skills in both English and Spanish, Mathematics, Science and Social Studies. Cultural enrichment activities in art, drama and music were also offered. Vocational education and academic courses were offered to out-of-school youths.

PROJECT PROFILE

I. Project Area No.	:	20
II. Project Title	:	Curriculum Enrichment and Improvement of Pupils' Academic Achievement
III. Grade Level	:	All levels
IV. Cost	:	$18,969,379.00
V. Year	:	1971-72
VI. Duration	:	This project is a continuation of a project operating in Puerto Rico since 1969

Objectives:

1. To improve pupils' academic achievement in the following areas:

   Spanish
   English
   Science
   Mathematics
   Social Studies
   Vocational Program

2. To enrich and expand curriculum in all instructional areas.

3. To facilitate and make more effective the transfer of students from secondary to college level and to offer students an opportunity to move ahead at their own pace.

4. To offer unemployed young dropouts between the ages of 16 to 21 from areas of high cultural deprivations, experiences for the intellectual, vocational and social development which will enable them either to find employment or continue further studies.

5. To provide opportunity for students with artistic talent to develop their potential to a maximum and to share their artistic knowledge and experience with others.

6. To improve teachers' preparation.

7. To improve and extend school library services.

8. To continue developing in teachers and students the competencies needed for the practical use of resources available in educational technology.

Activities:

A. Curriculum Development and Enrichment

1. New curriculum continued to be designed and the existent one continued to be revised.

Specifically, the following was accomplished during fiscal year 1972:

a) the curriculum designed to meet the educational needs in science of students in 4th, 5th and 6th grades was implemented in the 35 Title I districts. A total of 14,280 students benefited. Audiovisual aids, which included pictures, puzzles, filmstrips, posters and and charts, were either commercially purchased or produced by curriculum technicians or teachers.

b) the Social Studies program was reorganized so as to provide the students with laboratory periods using a variety of textbooks (averaging 4 instead of only one within a class period).

c) classes in English, Spanish and Mathematics at the university level, were offered in the 33 high schools participating in the project, by teachers with previous training in the subject in accordance with contents, methods and evaluation system.

d) wage earning home economics courses were established in 4 academic senior high schools. A total of 216 students benefited from the program.

e) under the Business Education Program major emphasis was given to strengthening existing courses in office occupations. The office practice course was enriched with simulated office experiences. Ten teaching positions were assigned.

f) the Distribution and Marketing Program provided training in modern selling techniques in retail trades to a total of 105 students in the school districts of Morovis, Isabela and Mayaguez.

g) courses in Industrial Arts were offered to 259 students in four senior high schools in the areas of basic electronics, graphic communication, technical drawing and power mechanics.

h) forty six academic senior high schools were served with trade courses. A total of 104 vocational courses were organized. The enrollment in these courses included 6,250 students, 5,000 of which were high school students and 1,250 dropouts.

i) in the seven vocational programs, instructional materials were made available to the participating districts. Outlines of courses, materials with information about the curriculum, bibliographies, teaching aids and monographs with occupational information, were developed. The Vocational Industrial Education Program concentrated its efforts in the preparation and revision of teacher guides and learning modules for power sewing machine operator, outbody repairing and painting, electrical appliances repairing, electricity, refrigeration, plumbing, cosmetology, carpentry, bricklaying and automobile mechanics.

On the area of Business Occupation, materials on office techniques were revised.

The distribution and marketing program produced materials with regard to personal relations, importance of distribution in the economy, life insurance, human relations in business, salesman personality and his social adaptation.

The Vocational Agriculture Program prepared curriculum guides for the teaching of units related to crops production, animal production, agricultural mechanics, food preservation, flower gardening and ornamental horticulture.

The Industrial Arts program continued the revision of high school courses on wood and metal manufacturing, basic electricity and visual communications.

The guidance program kept updating information on new and emerging occupations, besides monographs with occupational information for disadvantaged students.

Curriculum guides were completed for a special course dealing with home economics for the world of work.

j. A total of 335 secondary schools used the San Juan Star in the classroom and approximately 32,000 newspapers were distributed to the participating schools.

k. A three week seminar for forty talented ninth grade students from rural second unit schools in economically deprived areas, was held at the Inter-American University at San Germán where they offered conferences, field trips, laboratory experiments, films and library studies on interesting and contemporary scientific aspects.

l. Twenty five students served as guides in the Museum of Art in Ponce, while other 25 entered the School of Visual Arts. Guides served during their free periods and weekends and received monthly payments from $25 to $75 according to the number of hours worked. Subjects taught either in the Visual Arts School or in the Museum were sculpture, painting, cerography, drawing, engraving, Rennaisance Arts, the place of the fine arts in the economic and social development of the country and art appreciation in general. Twenty five students participated in the annual Fine Arts Festival and won the first and second prize in draing, first prize in caricature and second prize in collage.

m. The curriculum for the teaching of music was enriched through classes of musical history, musical appreciation, instrumentation and organization of bands, choral groups and rondallas.

n. A special curriculum for the Work-Study Center youths was designed.

o. Diagnostic tests as well as standardized achievement tests were constructed in Spanish, English, Mathematics, Science, and Social Studies.

p. A total of 997 students from 33 high schools of the Island, 11 of which are in Title I, were enrolled in the Advanced Placement Program. 522 students took the College Board Examination to receive credit for the classes taken. (Spanish, English and Mathematics).

B. Pre and in-service training activities were provided through which:

a) teachers attending the 119 participating groups in the Science program as well as 6 general supervisors and 35 coordinators were trained or oriented in the implementation of the new curriculum since many of them were new in the program this year.

b) three hundred social studies teachers were trained in the development of skills such as stating instructional objectives in behavioral terms, asking questions that demand more than mere memorization, development of reflective thinking including interpretation, organization, analysis, discussing alternatives, etc.

c) The Director of the Social Studies Program, the General Supervisors and the Coordinators offered about 282 training sessions (both group and individual) to approximately 3,000 participants.

d) A total of 12 sessions were held with supervisors and coordinators from the Spanish program to offer them orientation in areas such as: child psychology, production and use of teaching aides, reading methods and techniques, individualized instruction and evaluation.

e) Out of a total of 2,000 applicants, 466 high school graduates who had a satisfactory command of English and were interested in teaching as a profession, were selected as trainees for the bilingual program in 1971-72. Criteria for the selection of candidates were clearly stated and defined.

Pre-service training centers were established at various institutions of higher learning throughout the Island. The training sessions lasted approximately 8 weeks and accounted for a total of 9 college credits. The purpose of the training program were to familiarize the candidate with:

a) Techniques recommended for teaching English as a second language.
b) Materials used in the primary grades.
c) Psychology of early childhood.

The 466 candidates completed the training successfully and were appointed as provisional teachers of English. They were assigned to teach English in the primary grades in 690 schools in the six educational regions, 254 in the urban zone and 436 in the rural zone.

Bilingual teachers participated in various in-service training activities such as meetings, seminars, workshops and demonstration classes given by the local supervisors in the school districts. The type and number of in-service training activities varied from one district to the other depending on total number of teachers assigned to local supervisors.

Arrangements were made for the teachers to take special courses during Saturdays and succeeding summer sessions in order to complete the requirements for a certificate as "Teacher of English in the Elementary School". Forty teachers expect to finish their degree during 1972-73.

f) A 3 credit course in Linguistic in the Teaching of Reading (Education 385) was offered in 5 universities to a total of 130 junior high school teachers. The course content included the following aspects:

a) Principles underlying the development and teaching of an effective skill building program.

b) Selection and availability of literature for teenagers.

c) Use of electronic equipment and materials.

d) Individualized instruction.

Approximately 100 zone supervisors of English attended a 5 day seminar organized by general supervisors and the English staff at the Central office. Reading experts were invited to lecture on objectives, techniques and materials to be used in the project. The teachers participated in various inservice training activities such as meetings, seminars, workshops and demonstrations classes given by the local supervisors in the school districts. The type and number of inservice training activities varied from one district to the other depending on the number of teachers assigned to local supervisors.

g) Workshops, seminars and conferences on topics such as individualized instruction, teaching techniques, use of the skill tapes, use of audiovisual materials, evaluation in mathematics, modern mathematics, programmed instruction and use of text books were offered at the local, regional and central office levels for mathematics teachers. About 150 teachers had the opportunity to take university courses in mathematics:

Education 303 - 19 teachers
Mathematics 300 - 76 teachers
Mathematics 151 - 55 teachers

h) Summer seminars were offered to participating teachers by the Advanced Placement Program during summer sessions by University professors under the direction of College Board officials.

i) In-service training for vocational education teachers and curriculum technicians was itensified in the seven vocational programs:
Guidance and Counseling, Business Education, Distribution and Marketing, Industrial Arts, Business Occupation, Vocational Agricultural.

j) In-service training was offered to 13 librarians in book-binding, reading techniques, use of audio-visual aids.

k) Three hundred secondary school teachers were offered in-service training in the use of the newspaper as an educational device. These included the use of various sections of the newspaper, current events, newspaper terminology, skimming, editorials, etc.

l) In-service training and university courses such as; Repertorio Coral, Organization of Choral Groups, Orff Mehtod, etc. were offered to 38 teachers of music in the secondary schools. Workshops dealing with areas related to sculpture, photography, use of new techniques in plastic arts were offered to 20 teachers of visual arts.

m) A total of 747 teachers attended in-service training activities organized by audiovisual coordinators on use of educational technology, manipulation and maintenance of equipment, designing, production and use of audiovisual materials, etc.

n) In-service training activities for kindergarten teachers included seminars, conferences demostrative classes and workshops on specific teaching techniques for this level. Scholarships were provided to 18 teachers to pursue further university courses on preschool education.

C. Books, newspapers, equipment and materials were purchased and used accordingly for the following purposes:

a) To improve and reinforce reading skills in the junior high school level the following books were purchased:

1) 136,172 English reading skill building text books.

2) 5,355 library books for reading corners.

3) Electronic equipment and materials for 85 participating schools in the English program.

4) Each school was provided with a tape recorder, table, chairs, 8 headphones, lighting center, 13 story books and metal cabinet.

b) Mathematics teachers were provided with overhead console, tape recorder and cassettes, sets of slides following units of study, files and pegboard screens.

c) Reference books for the high school libraries were provided and $20 examination fee was paid to the students who participated in the Advanced Placement Program and took the College Board examinations.

d) Twenty one audiovisual centers were organized in target areas which included establishment of 6 regional film libraries to provide circulation of 16 millimeter motion pictures to use in the classrooms.

e) Each audiovisual specialist received $3000 in order to evaluate, select and purchase commercially prepared audiovisual material.

f) Equipment and material purchased by the Department of Education for the audiovisual program included:

1084	--	motion pictures
1181	--	film strips
147658	--	slides and transparencies
1462	--	other audiovisual materials

g) Instructional materials and equipment were provided to Kindergaten teachers which allowed for the creation of an adequate classroom atmosphere.

The supportive and ancillary services hereafter described were provided to help the target youngsters overcome difficulties that were hindering their academic gain and their emotional and social growth.

Instruction in health problems and drug abuse was offered. Health services were provided and activites aimed at reducing the drop out rate were conducted.

PROJECT PROFILE

I. Project Area	:	30
II. Project Title	:	Supportive Services
III. Grade Level	:	All levels
IV. Cost	:	$2,501,373.00
V. Year	:	1971-72
VI. Duration	:	This project is a continuation of a project operating in Puerto Rico since 1969

Objectives:

1. To improve pupils' physical, social and emotional development.
2. To retain in school at leats 50% of students identified as potential dropouts.
3. To offer students the opportunity to develop and cultivate their potentialities and aesthetic interests in the arts of painting, music and drama.
4. To foster and incrase participation of parents and other community members in school affairs.
5. To improve guidance services to students through the use of diversified media in the identification of students' interests and needs.

Activities and services provided:

A. Health Services

Physical examinations were made to a total of 38,403 (74.6%) kindergarten, first and seventh grade students of 36 districts, 35 of which are Title I. Specialists such as ophtalmalogists, dermatologists, cardiologists, orthpedists, etc. tended a total of 5,034 students in 26 districts. A total of 25,163 students in 28 Title I districts received dental services which included extractions, treatment for dental cavities and surgery. A total of 959 students received hospital services at a cost of $122,315.56.

B. Social Work Services:

A total of 37 positions of social worker were assigned to work in rural and urban areas in 29 Title I districts. Of a total of 47,528 students of all levels who benefited in one way or another from the services provided by the social worker in the 29 districts, 2,751 received individual help and 2,718 participated in group sessions. A total of 2,644 students were identified as potential dropouts by means of a predictive scale and teachers observations.

In-service training activities were provided by means of which social workers were trained in several aspects such as drug addiction and group therapy. Improvement of school environment, health and economic problems of students, social and civic activities and preparation of bulletins were some of the activities developed as part of the seminars (seminario de vida estudiantil) organized in various districts.

C. Guidance Services:

The Guidance and Counselling Program utilized the service of 11 counsellors that served a total of 5,845 high school students from 8 school districts in addition to the existing 402 positions in the regular program.

D. Fine Arts and Recreational Cultural Activities:

Formal music classes were continued with the following groups: Orquesta Juvenil de Cuerdas de Río Piedras, Rondalla de Yauco, Rondalla de Sabana Grande, Conjunto de Acordeones de Luquillo, Conjunto de Flautas de Salinas, Piano Lessons of Cidra, Conjunto de Cuerdas de Juana Díaz, Hatillo Band, Barceloneta Band and Piano Lessons of Viques. A total of 652 students participated in the program.

Seventeen teachers of drama and 3 supervisors were appointed this year to work in 17 Title I districts. A total of 925 students participated in the dramatic arts classes, 1,587 in the production of theatrical performances organized locally, 1,098 in special programs to celebrate school holidays, 290 in the Fine Arts Festival and 130 in Choral Recitation.

A total of 42 activities dealing with various phases of Puerto Rico and Universal Culture were offered around the Island, 9,046 students benefited from them. The activities consisted of lectures, poetry recitals, concerts, presentations of choral groups and theatrical performances.

The "Areyto Ballet Folklórico Puertorriqueño" offered 20 performances in Title I districts. A total of 18,000 students attended these performance free of charge.

Workshops on the use of the puppet as a teaching device were offered to 110 elementary school teachers specially from the rural zone in 21 Title I districts. A total of 11,898 students from the target areas attended the 109 puppet performances offered.

Fifteen teachers already trained during previous years continued with the Teachers' Theatrical Company presenting theatrical performances. Two plays, El Enemigo del Pueblo and Fuente Ovejuna were presented this year. Two hundred nineteen performances were presented in schools and approximately 67,658 persons observed them among which were students, teachers, parents and other community members.

A series of 4 concerts by the Symphonic Orchestra of Puerto Rico, 6 by professors of the Puerto Rican Conservatory of Music and 40 by famous local players and singers were offered to students of low sico-economic level. A total of 6,803 students benefited from both urban and rural zones.

Two groups of 25 students were organized in the Mayaguez and Ponce Regions, to which 23 classes in the plastic arts were offered on Saturdays. Activities offered consisted of the study of plastic arts, analysis of pictures, filmstrips, sculptures, and masterpieces.

The Mobile Art Exposition with 29 masterpieces visited 31 of the 35 Title I school districts and other low socio-economic areas. Approximately 33,396 students visited it. Printed materials with pictures and biographical notes about the artists were distributed among visitors.

SUMMARY OF MAJOR FINDINGS

Summary of Major Findings:

A. Background:

Over the years of Title I funds in our educational system, the Division of Evaluation has faced serious limitations while trying to comply with the Title I evaluation requirement. One major constraint has been the lack of initial data base against which to compare annual results.

The need to develop standardized tests, being as it is a very slow process, plus the unsuccessful attempts to develop an effective data processing capability at the State Department of Education along with changes in the Title I program itself, have contributed to conceal very significant efforts expended toward a more comprehensive and objective assessment of the Title I program impact in the educational system.

The following is a summary of the major findings for this fiscal year including both objective and descriptive data.

B. Highlights of the findings:

In terms of stated goals, Title I projects were in general successful. However, in most cases, goals were stated in terms of services to be provided rather than in terms of change of behavior expected in the students.

Project I - Lengthening of the school day

Results:

A comparison of enrollment figures by type of school organization for the years 1971 and 1972 indicates that within the Title I sector there was a 3% decrease in the double enrollment (3 hours) type of school organization and 1% decrease in the double enrollment (4 hours) type of school organization.

Project Area II - Curriculum Enrichment and Improvement of Pupils' Academic Achievement

Academic Achievement

a. Reading

Results:

Test results indicate that although, in general, Title I districts are still achieving mean scores below islandwide norms, in Spanish and English reading, the amount of gain attained from 1971 to 1972 was the same or in some cases slightly better than that attained by the Non-Title I districts included in the testing sample.

The difference between urban and rural zone students within the Title I sector is also smaller than in the Non-Title I sector.

b. Mathematics

Results:

The results indicate there was no significant difference between Title I and Non-Title I groups in the seventh grade, however, significant differences in favor of the Title I groups were observed in the results of the Algebra test administered in the ninth grade.

c. Science

Results:

In the opinion of teachers and on the basis of attendance records, participation in class and science activities such as fairs, field trips, supplementary

readings, etc. there was increased interest in science.

d. Social Studies

Results:

According to scale used by coordinators, about 89% of the 300 teachers stated objectives in behavioral terms by the end of the school year.

Direct observation in 15 classrooms as well as reports from two Regional Supervisors lead to conclude that toward the end of the school year about 87% of the teachers showed satisfactory progress in the use of questions to encourage reflective thinking.

e. Pre-School Education

Results:

In the opinion of teachers, supervisors and Evaluation coordinators, the Kindergarten program succeeded in the development of positive attitudes, skills and social habits of students.

f. Special Education for Handicapped Children

Results

Although educable mentally retarded and trainable mentally retarded students seem to have improved in the academic, social, health and manual skills, the project did not reach its full development because of need of special techniques, guides for teachers, adequate materials and equipment

Project Area III - Supportive Services

Results

Services designed to meet the physical, social and emotional needs of students within the Title I Area were continued and in most cases extended or increased:

a) Health services offered were highly increased including in 1972 approximately 38,403 students, that is 74.06% of all Kindergarten, first and seventh grade children in 34 districts, 33 of which are within the Title I sector.

b) Reports of Social Workers reveal that out of a total of 2,644 students identified as potential dropouts, 2,145 (81%) were retained in school.

c) Opportunities for pupils' development of their recreational and artistic talent continued to include among other activities the following: School theatre, music classes, musical concerts, puppet theatre, plastic arts workshops, art expositions, school bands, visual arts seminar, ballet performances and dramatic arts.

Aspiration Level of Students

Results:

The percentage of twelfth grade graduates indicating plans to study after graduation is the same within the Title I sector as in the rest of the Island. The percentage indicating plans to continue studying at the University level is higher than that from the remaining districts.

A P P E N D I X

Appendix I

ESTADO LIBRE ASOCIADO DE PUERTO RICO
DEPARTAMENTO DE INSTRUCCION PUBLICA
DIVISION DE EVALUACON-TITULO I

HOJA DE INFORMACION SOBRE PLANES DE LOS ESTUDIANTES DE ESCUELA SUPERIOR

Para ser contestado solamente por estudiantes de duodécimo grado.

1- Tan pronto termine mis estudios de escuela superior

A- voy a continuar estudiando solamente
B- voy a estudiar y a trabajar
C- voy a trabajar solamente
D- no tengo planes de continuar estudiando ni de trabajar
E- voy a ingresar en el ejército

o Si contestaste el ítem #1 en la alternativa A, contesta solamente los ítems #2, #3, #4.

o Si contestaste el ítem #1 en la alternativa B, contesta los ítems #3, #4, #5.

o Si contestaste el ítem #1 en la alternativa C o en la D, contesta solamente el ítem #6.

o Si contestaste el ítem #1 en la alternativa E, terminaste y puedes entregar tu cuestionario.

2- Para continuar mis estudios

A- cuento con recursos económicos suficientes
B- necesito una beca que cubra todos o gran parte de mis gastos
C- necesito solamente ayuda para pago de transportación
D- necesito solamente ayuda para pago de hospedaje
E- necesito solamente ayuda para libros y materiales de estudios

3- Tengo planes de estudiar

A- en una universidad o colegio
B- en una escuela de comercio
C- en una escuela vocacional
D- en un instituto tecnológico
E- mis planes de estudio son diferentes a los expresados en las anteriores

Cont. Appendix 1

4- Tengo planes de estudiar

A- más de cuatro años
B- cuatro años
C- dos ó tres años
D- un año
E- menos de un año

5- Tengo planes de estudiar

A- de día y trabajar de noche
B- de día y trabajar en días libres
C- medio día y trabajar medio día
D- cursos nocturnos y trabajar de día
E- cursos por correspondencia y trabajar de día

6- No voy a continuar estudiando porque

A- no me interesa
B- necesitaría una beca, ya que no tengo dinero suficiente
C- mi familia necesita que yo los ayude económicamente
D- mis notas son demasiado bajas
E- mi salud no me lo permite